

**DESIGNING AN ELECTRICAL  
POWER DISTRIBUTION SYSTEM  
FOR  
CITY OF GALLUP**

This booklet is to assist Customers, Architects, Engineers, and Contractors planning connections to the electrical distribution system operated and maintained by the Gallup Joint Utilities (GJU). GJU shall have final determination and approval before any project is constructed. GJU Electrical Engineering Technicians coordinate the design and engineer the electric power distribution system. These plans will reflect the construction requirements and easements for the development project.

The electrical distribution system designs may vary considerably depending on electrical loads, size of project and proximity of the development from existing electrical substations and main power lines. The physical condition and location of the project site may also favor an overhead versus underground electric distribution. Coordination, good design, and project management are the keys to a smooth completion of an electrical distribution system project.

**I. INFORMATION REQUIRED FROM DEVELOPER FOR ELECTRICAL DESIGN**

**A. SITE PLAN**

An accurate site development plan is necessary to get a good design of the project. Information on adjacent property owners will be required depending on the scope of the project. Information such as existing utilities, grading plans, existing easements and/or right of way and ownership should be indicated as accurately as possible.

**B. ELECTRIC POWER REQUIREMENTS**

**a. CHARACTERISTICS OF ELECTRIC SERVICE**

GJU supplies 60HZ alternating current. The Developer must indicate the need for single-phase service, three-phase service or both. Other special needs must be discussed with GJU as early as possible at the start of the project.

**b. VOLTAGE REQUIREMENTS**

The Developer shall indicate the secondary voltage classification requirements. GJU normally supplies 240/120 Volts for Single-phase and 208Y/120 Volts or 480Y/277 Volts for three-phase service.

GJU may require, at its own determination, the use of primary metering for customers that have large loads.

**c. LOAD SCHEDULE**

The Developer is required to submit the load calculations for any proposed non-residential development. The State of New Mexico requires a single service capacity over 100KVA single phase or over 225KVA three phase to be prepared, reviewed, and certified by a Registered Professional Engineer. Small projects are an exception. Check with New Mexico Construction and Industries Division for current policies regarding preparation of plans and calculations.

The load calculation shall list the total connected load and necessary demand load. In addition to total load the plans shall supply detail load schedules (e.g. Panel schedules).

A reasonable estimate load requirement may be accepted initially if the final calculations are not yet available. GJU reserves the right to require the final load calculations at any phase of the project if it becomes necessary.

d. METER

Meter location shall be indicated on the design. GJU requires the meter to be mounted directly on the pad mount transformer, on the outside wall of the building, or mounted on a uni-strut bracket three feet from the sides of the transformer and fully accessible at all times.

e. MAIN DISCONNECT

To insure the ultimate in safety for the City of Gallup fire personnel, all new or rewired electric services shall have a single disconnect point on the exterior part of the building so that the fire department can de-energize the building if necessary in case of fire.

The Developer shall provide the size of the main disconnect on the design submitted.

## **II. EASEMENTS**

GJU requires twenty-foot wide easements for overhead power lines and ten-foot wide easements for underground power lines. These easements may be reduced if the power lines will be constructed along public right of ways. However, more easements may be required under unusual conditions. GJU requires a legal description of the electric distribution system stamped by a certified Land Surveyor at developer's expense.

Developments within tribal land differ from easements of private owners. Easement should be described within an approved land withdrawal. If the power line is not within the land withdrawal, a formal right of way acquisition will be required. It is the responsibility of the developer to get the right of way from the Tribe. The right of way acquisition process may take from six months to a year once the request for right of way is made to Navajo Nation, Project Review Office.

## **III. OVERHEAD VERSUS UNDERGROUND**

New residential subdivision developments are designed for a front lot underground distribution system. This policy will hold unless the location dictates that trenching and excavations for an underground system will be cost prohibitive. Special cases will be taken under advisement.

Commercial and Industrial developments are also encouraged to give preference to underground distribution systems. However, existing facilities in the project location and electrical loading requirements are parameters that may also prohibit a full underground system. Several commercial developments have been served from overhead power lines using underground risers to connect to new underground lines. This combination system appears to provide for the most economical and efficient design.

#### **IV. COST ESTIMATES**

GJU will send a cost estimate to the Developer and/or their Contractor for the proposed distribution system after completing the design. Below is the cost of furnishes and installs:

- **Residential**  
Developer is responsible for trenching, backfill, conduit; service cables extending from the transformer to the main disconnect panel and easements.
- **Commercial**  
Developer is responsible for trenching, backfill, transformer/transcloser pad, manhole, conduit; service cables extending from the transformer to the main disconnect panel, and easements.

The Developer needs to comply with the specifications on the design as designed by GJU engineering technicians. The Developer is also responsible for getting the required inspections and approval for the trenches and the material that he installed. The GJU Electric Department will install the primary (15KV) cables, equipment and residential transformer pad at developer's expense. Contact GJU for the cost estimate of the proposed line extension. Service cables extending from the transformer to the main disconnect panel, conduit and equipment are to be furnished and installed by Developer. GJU Electric Department has built most of its overhead power lines using its own electric crews.

#### **V. CODE COMPLIANCE**

GJU will design the electrical distribution system according to the minimum requirements of GJU and the latest revision of the National Electric Safety Code (NESC). The developer must inform GJU if they have to conform to a more strict set of standards prior to the initiation of the design.

Service cables, conduit, concrete pad, and equipment are to be furnished and installed by the Developer. GJU will specify some minimum standard requirements. It is the responsibility of the Developer/Contractor to comply with the latest edition of the National Electric Code (NEC), State of New Mexico and Federal Rules and Regulations as applicable to their specific project.

#### **VI. COORDINATION WITH GJU ENGINEERING, ELECTRIC DEPARTMENT AND CUSTOMER SERVICE**

The Developer must first contact the GJU Engineering Department to design an electric distribution system. GJU Engineering and the Developer need to be sure that the Developer's requirements are met and GJU's requirements are complied with. The developer then agrees in writing to pay for the cost of the project as reflected on the cost estimate or to perform the work as called for in the plans. GJU then approves the plan for construction and releases a work order.

The GJU Electric Department estimates the construction schedule depending on workload and availability of materials using the approved design. Some electrical materials may not be available for several months depending on the size of the project. Developer should stay in contact with GJU Engineering for the status and for expected scheduling of the project. The Developer shall contact GJU Engineering in writing of any changes to electrical design and/or construction activities.

The Developer must also contact the customer service department to set up a new customer account and to schedule the inspection, approval and connection of the electric service.

## **VII. SERVICE INFORMATION**

GJU has the responsibility to assure that the service entrance to and including the first disconnecting means downstream from the meter is adequate to protect GJU equipment and personnel. GJU requires that the service entrance equipment is installed and inspected by a properly certified or licensed electrical inspector. Projects within Tribal Lands, the journeyman electrician will be required to submit a certificate of completion form and it is under his supervision that the electric work is in compliance with the latest addition of the National Electric Code, GJU standards and the state of New Mexico standards. GJU reserves the right to and will inspect the service entrance equipment prior to providing service.

GJU is not obligated to convert any service nor connect to any service which does not meet National Electric Code (NEC), State of New Mexico Electric Code, and Federal Rules and Regulations or which GJU, at its sole discretion, deems unsafe.

## **IX. ELECTRIC CONSTRUCTION STANDARDS**

GJU designers and engineers design all electric power distribution systems. These designs will reflect easement and construction requirements for the development project. This design will also include construction standard drawings that are pertinent to the project.

Some of the most commonly used construction standard drawings are attached for reference only. GJU reserves the right to modify and update these drawings to a form that is best suited for the project. The final form will be as shown on construction plans.

# **GJU's Standard Requirements**

## **For extending electric primary lines**

1. Owner/developer must coordinate with GJU on new location of primary electric line.
2. A 10-foot wide PUE for underground and 20-foot-wide PUE for overhead will be required for the new location of the electric line extension.
3. "As-Built" and PUE (public utility easement) will be required before the electric service is energized.
4. Main disconnect on the exterior of the building is required.
5. Developer/contractor must coordinate with GJU prior to any work on and for the exact location of the primary line extension.

### **Underground**

- Contractor must do the trenching, backfilling, and compaction (3" thick sand bedding required above rock sub grade).
- Contractor must obtain utility line locates and verify vertical and horizontal clearances from other utilities prior to any excavation.
- GJU must inspect trench and conduit prior to backfill.
- GJU contributes \$1500 per residential customer.
- Contractor must furnish and install:

- Galvanized rigid conduit for riser

#### **20 Feet or Less:**

- **24" 90° RGS long sweep elbow wrapped with corrosion tape for riser only.**

- **24" 90°RGS short sweep elbow for transitions into the transformer/transclosure wrapped with corrosion tape.**

#### **21 Feet – 400 Feet:**

- **48" 90° RGS long sweep elbow wrapped with corrosion tape for riser only.**

- **24" 90°RGS short sweep elbow for transitions into the transformer/transclosure wrapped with corrosion tape.**

- Transformer/transclosure pad (commercial only)

- Meter enclosure

- Conduit PVC is to be SCH40 with 5/16" Polypropylene pull rope

- Red warning tape to identify buried electric Cable one foot below grade.

- Secondary wire

- GJU provides the following with cost:

- Primary cable

- Terminators

- PLM caps

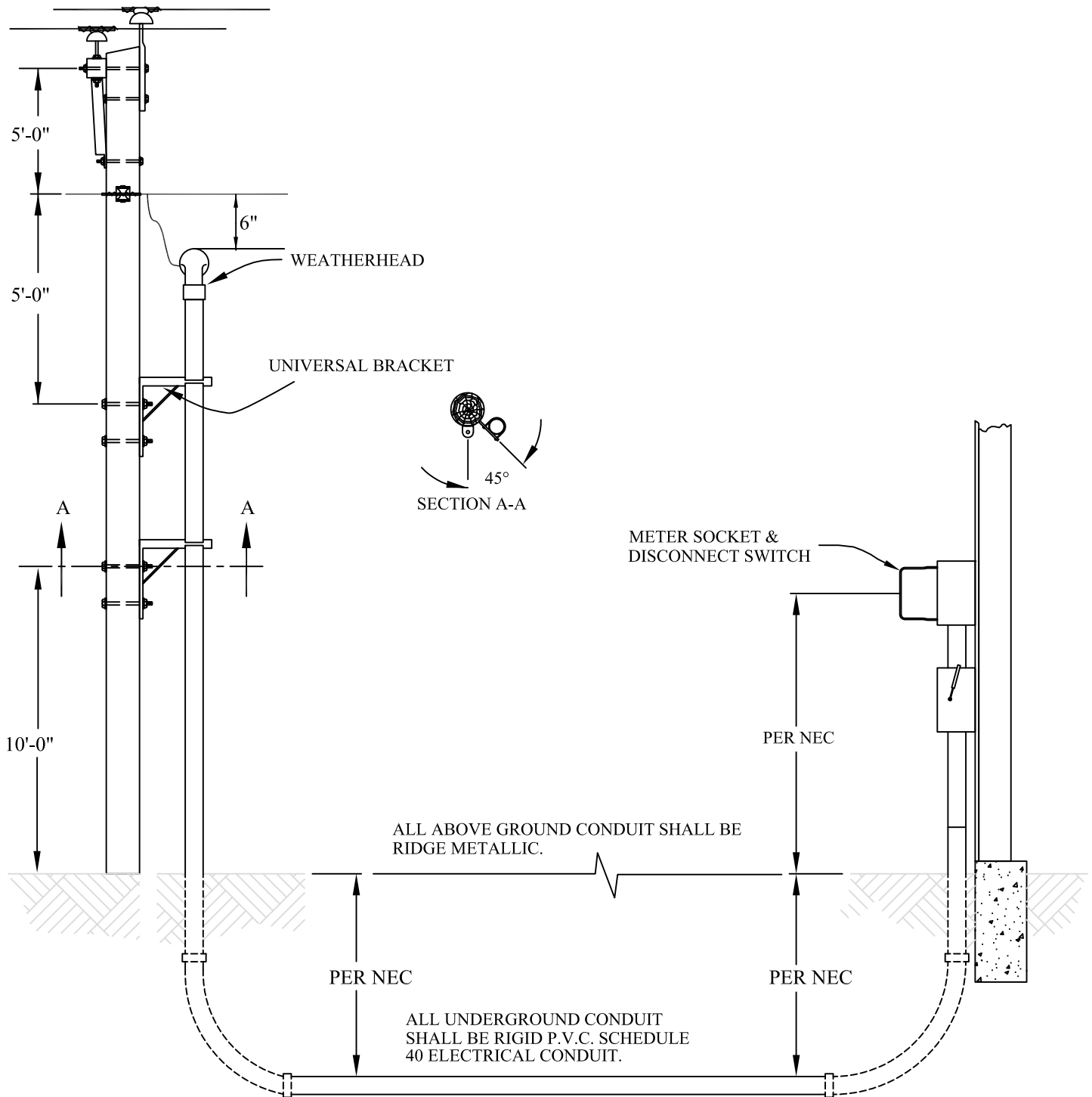
- Arresters

- Cutouts
- Transformers
- Transformer Pad (residential only)
- KWH meters

**Overhead**

- GJU will design a primary overhead line and cost for the project.
- GJU electric department will build all overhead lines upon payment.
- GJU contributes \$1500 per meter.

## STANDARD INSTALLATIONS



#### NOTES

1. CONDUIT SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE POLE FROM THE CROSSARM OR DOWN GUY.
2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.
3. CONDUCTOR LEADS SHALL PROTRUDE FROM WEATHERHEAD A SUFFICIENT LENGTH TO CONNECT TO TRANSFORMER SECONDARY BUSHINGS.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/22/08  
DRAWN BY: E.J.W.  
APRVD BY:  
APRVD BY:  
SCALE: N.T.S.

TITLE:  
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UNDERGROUND SERVICE**

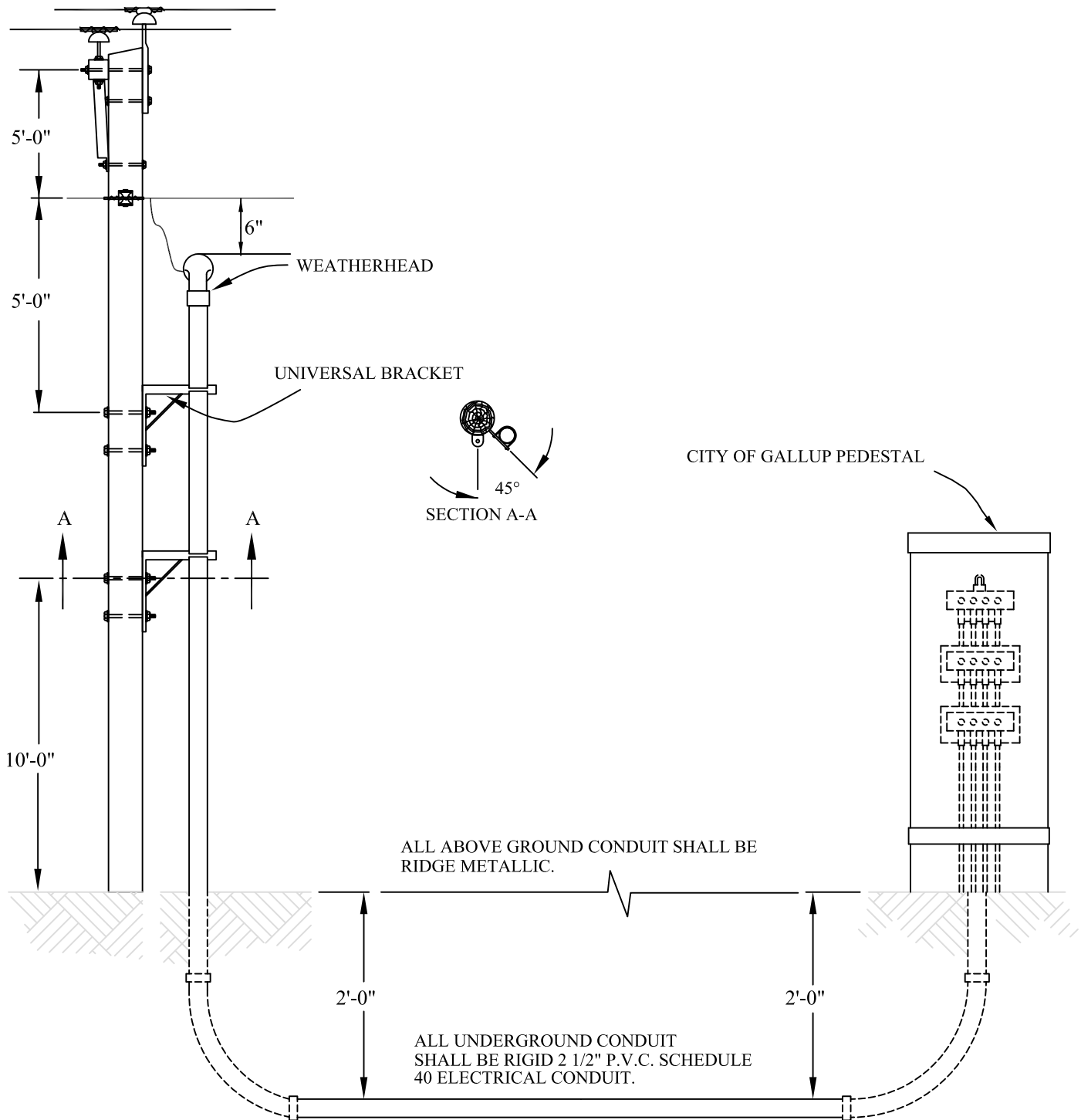
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#### NOTES

1. CONDUIT SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE POLE FROM THE CROSSARM OR DOWN GUY.
2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.
3. CONDUCTOR LEADS SHALL PROTRUDE FROM WEATHERHEAD A SUFFICIENT LENGTH TO CONNECT TO TRANSFORMER SECONDARY BUSHINGS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, CONDUIT, AND CONDUCTOR FOR THE SECONDARY INSTALLATION.



**GALLUP  
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 APRV'D BY:  
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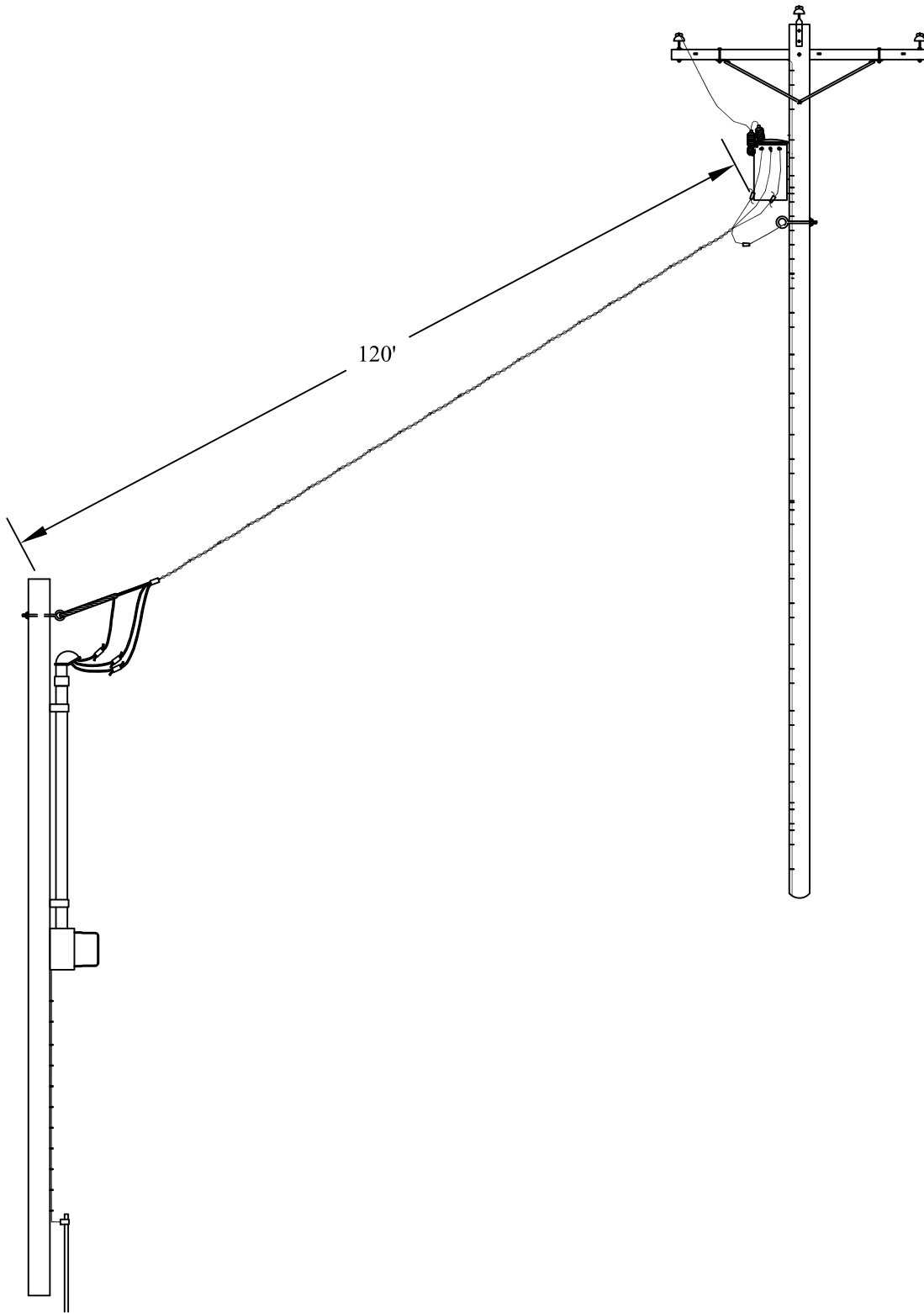
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 UNDERGROUND PEDESTAL**

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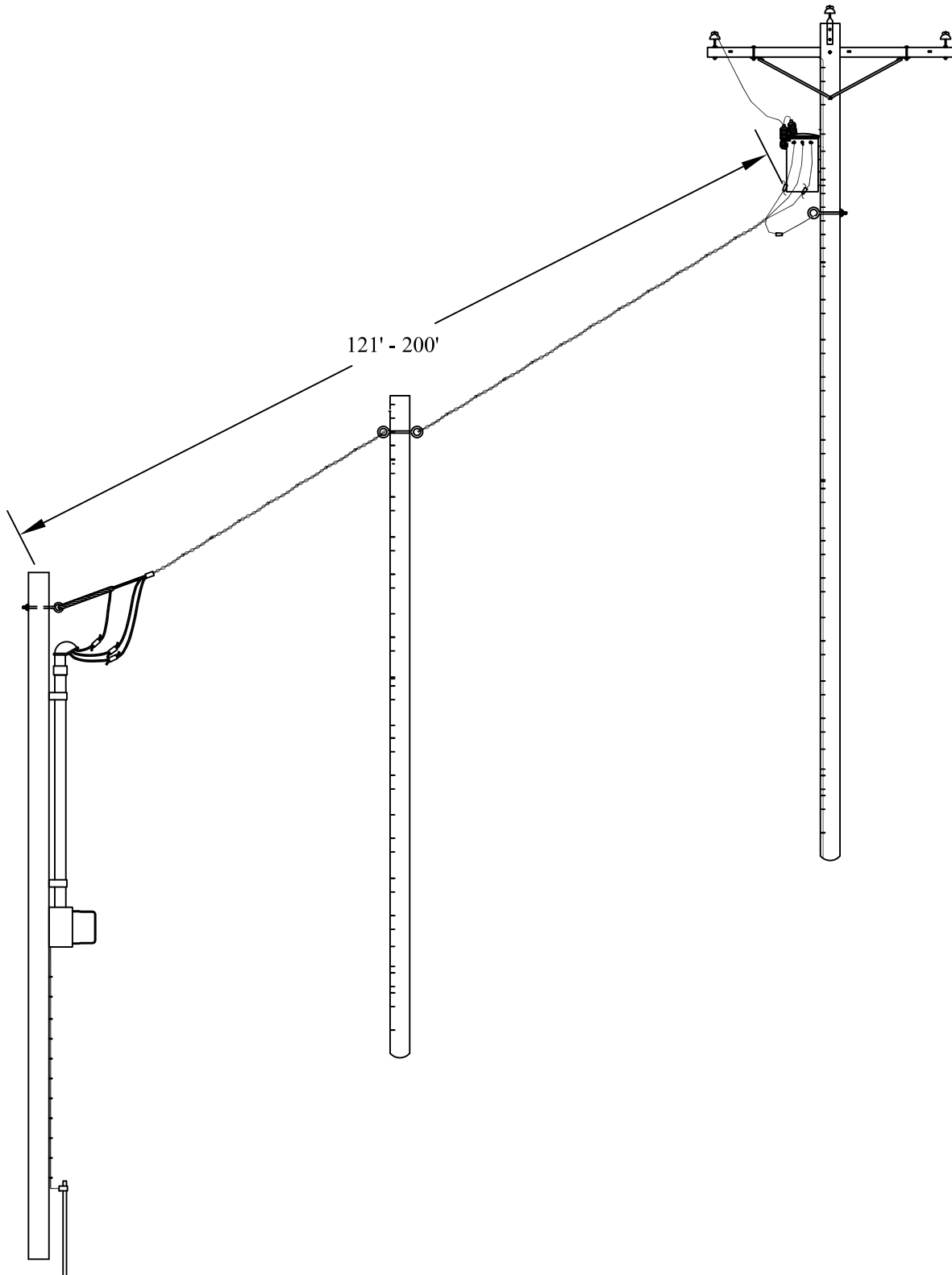
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 STANDARD INSTALL  
 100 Amp**

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**GALLUP  
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DATE: 11/21/2008  
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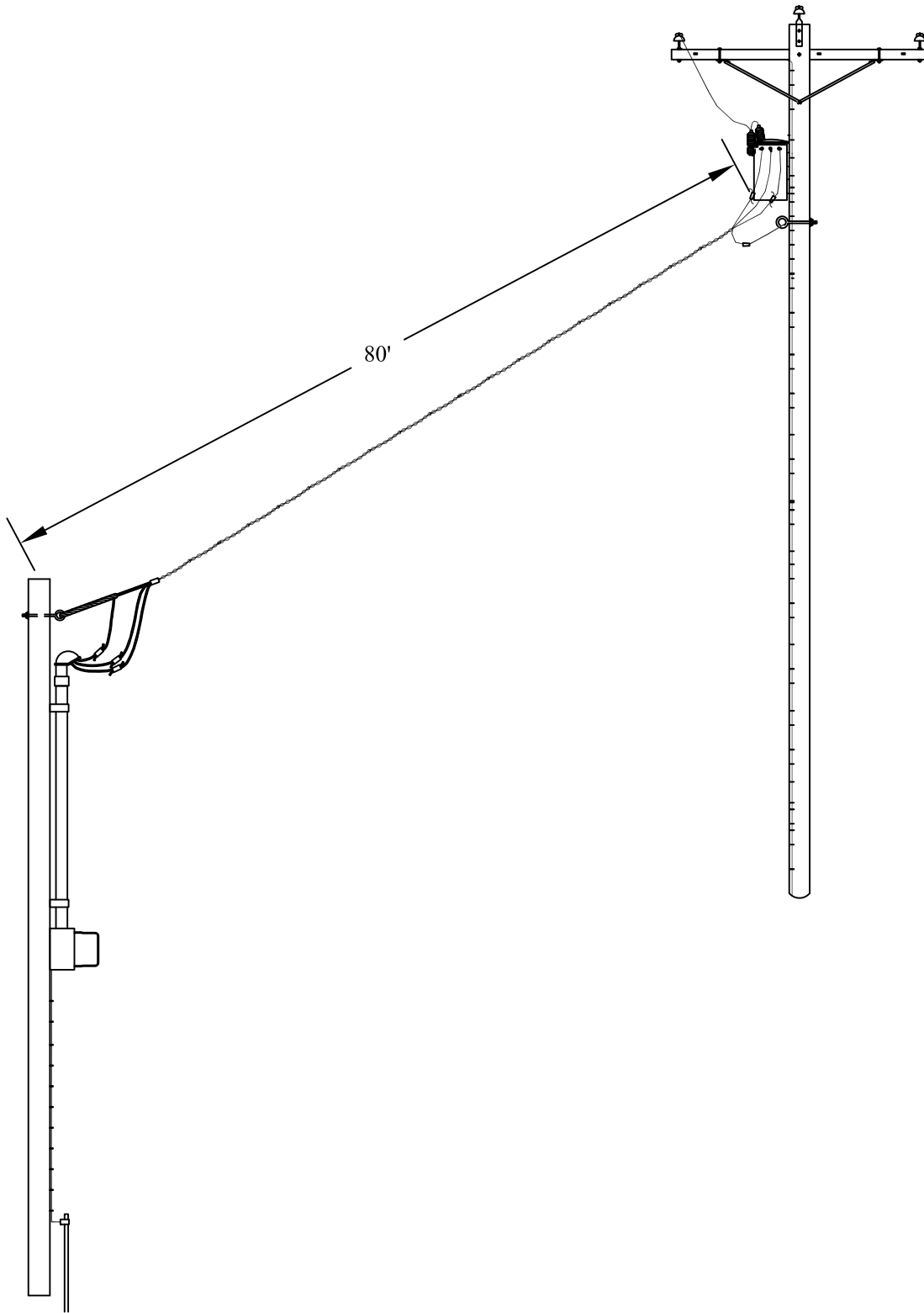
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**NO. 2 TRIPLEX  
 LIFT POLE NEEDED  
 100 Amp**

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**GALLUP  
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DATE: 11/21/2008  
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TITLE:

**NO. 2/0 TRIPLEX  
STANDARD SERVICE  
200 Amp**

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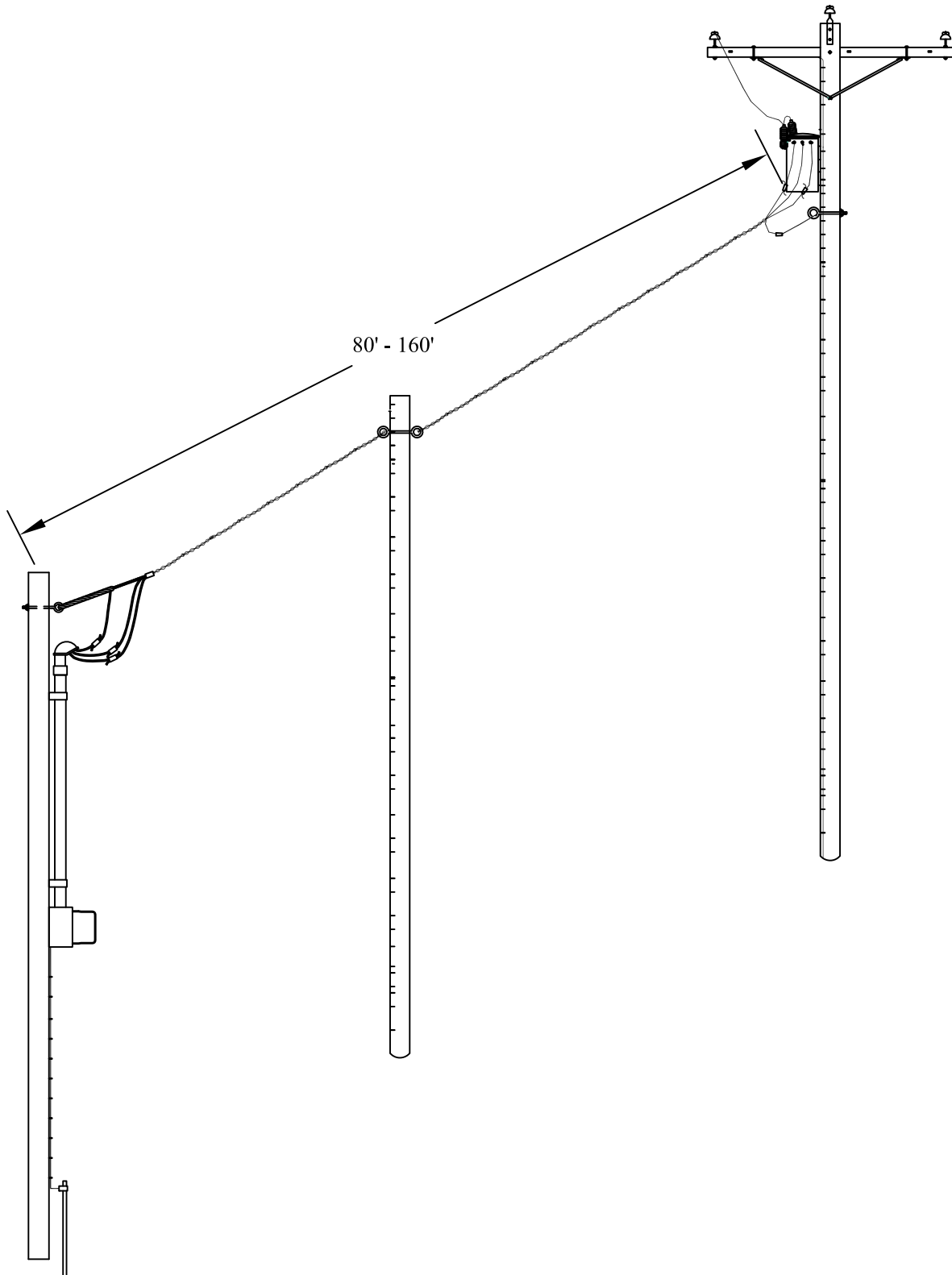
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TITLE:  
**NO. 2/0 TRIPLEX  
 LIFT POLE NEEDED  
 200 Amp**

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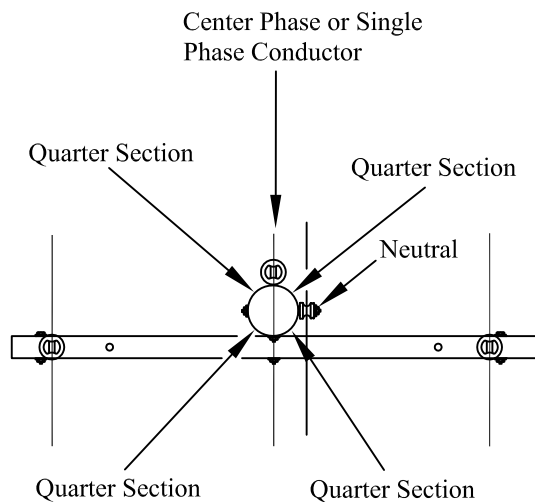
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## Riser Conduit Sizes

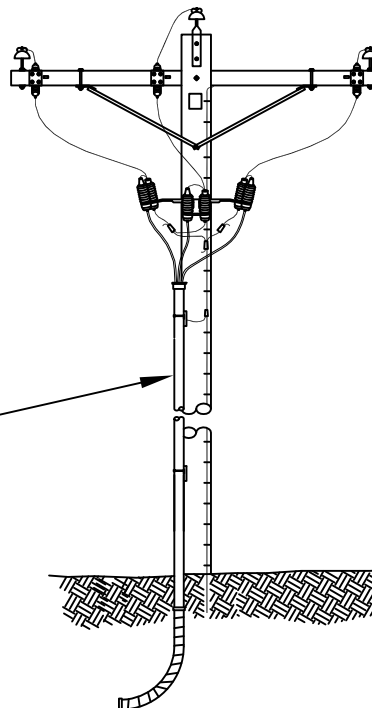
Three Phase Installation - Using No. 2 Aluminum 15 KV URD Conductor - 4" Conduit

Three Phase Installation - Using No. 4/0 Aluminum 15 KV URD Conductor - 5" to 6" Conduit



The riser shall be installed on a Quarter Section of the pole that would minimize the risers exposure to roadway traffic.

The riser shall be installed such that it will not interfere with any existing pole attachments (i.e. communications and system neutral)



## Notes

1. Contractor to furnish all Galvanized Rigid Conduit (G.R.C.) and hardware for the complete riser installation.
2. Contractor shall complete the first 10 ft of the riser which includes the universal support bracket.
3. Contractor to contact GJU for location of riser prior to trenching.
4. All elbows are to be Galvanized Rigid Conduit (GRC) sweeps and wrapped with corrosion tape.



**GALLUP  
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DATE: 11/23/2009  
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APRVD BY:  
SCALE: N.T.S.

TITLE:

**PRIMARY RISER  
INSTALLATION**

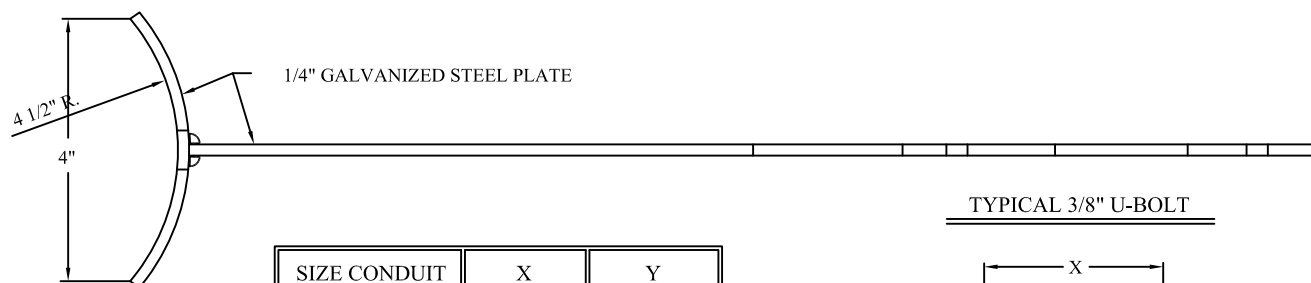
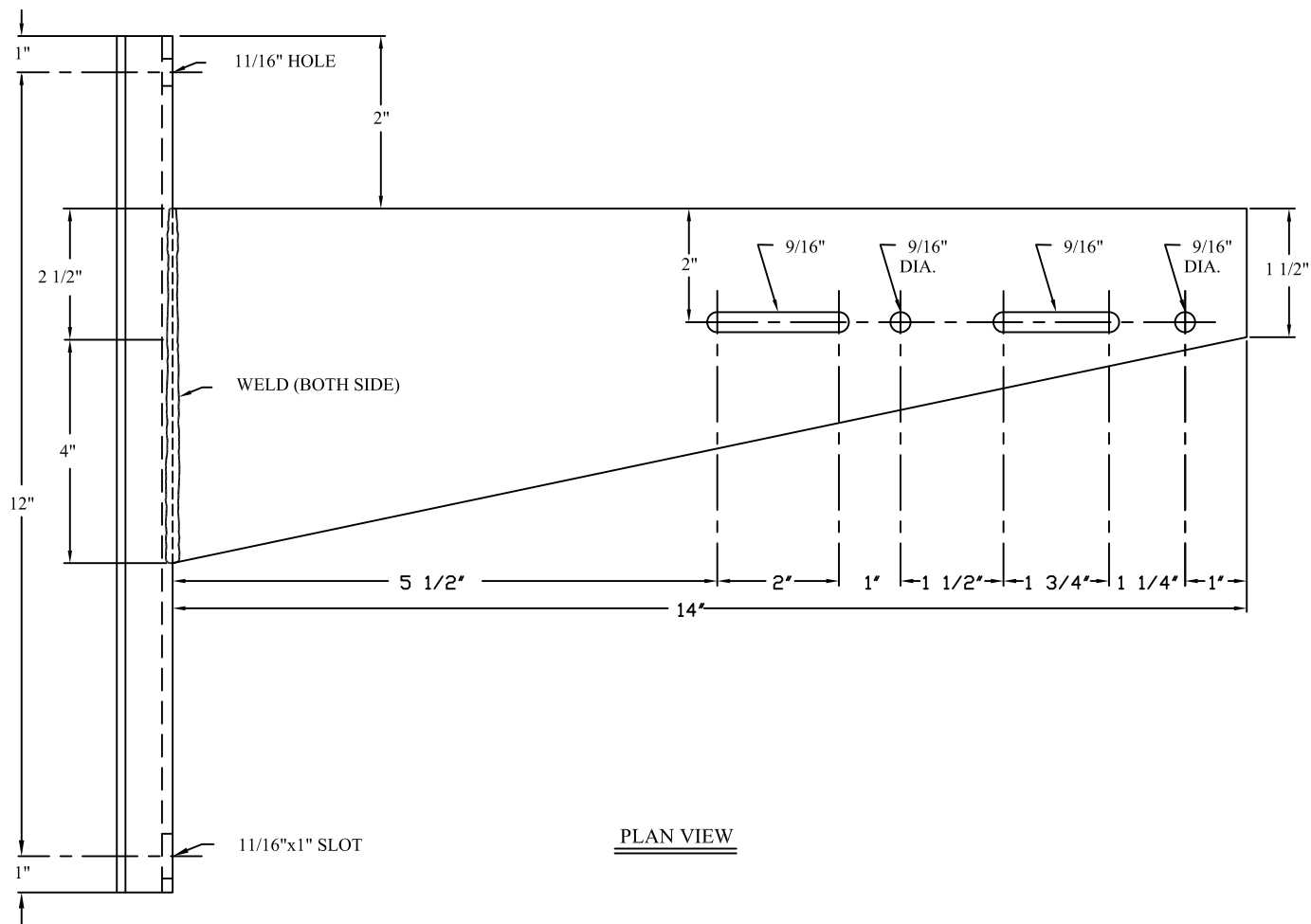
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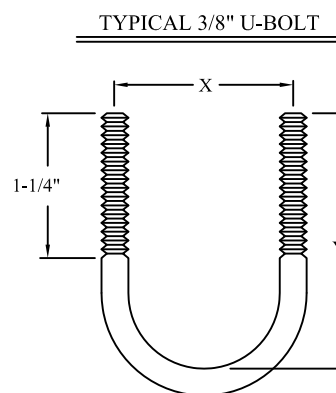
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SIZE CONDUIT	X	Y
4"	5"	5 3/4"
5"	6 1/16"	6 13/16"



#### NOTES

- BRACKET TO BE FASTENED TO POLE WITH ONE 5/8" GALVANIZED A MACHINE BOLT AND ONE 1/2" X 4" LAG SCREW
- BRACKET SUITABLE FOR 2", 4", OR ONE 5" CONDUIT.



**GALLUP  
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DATE: 06/05/95  
DRAWN BY: A.G.W.  
APRVD BY:  
APRVD BY:  
SCALE: N.T.S.

TITLE:  
**UNIVERSAL SUPPORT BRACKET  
2" - 5" CONDUIT**

#### REVISIONS

BY: DATE:  
E.J.W. 02/15/2011

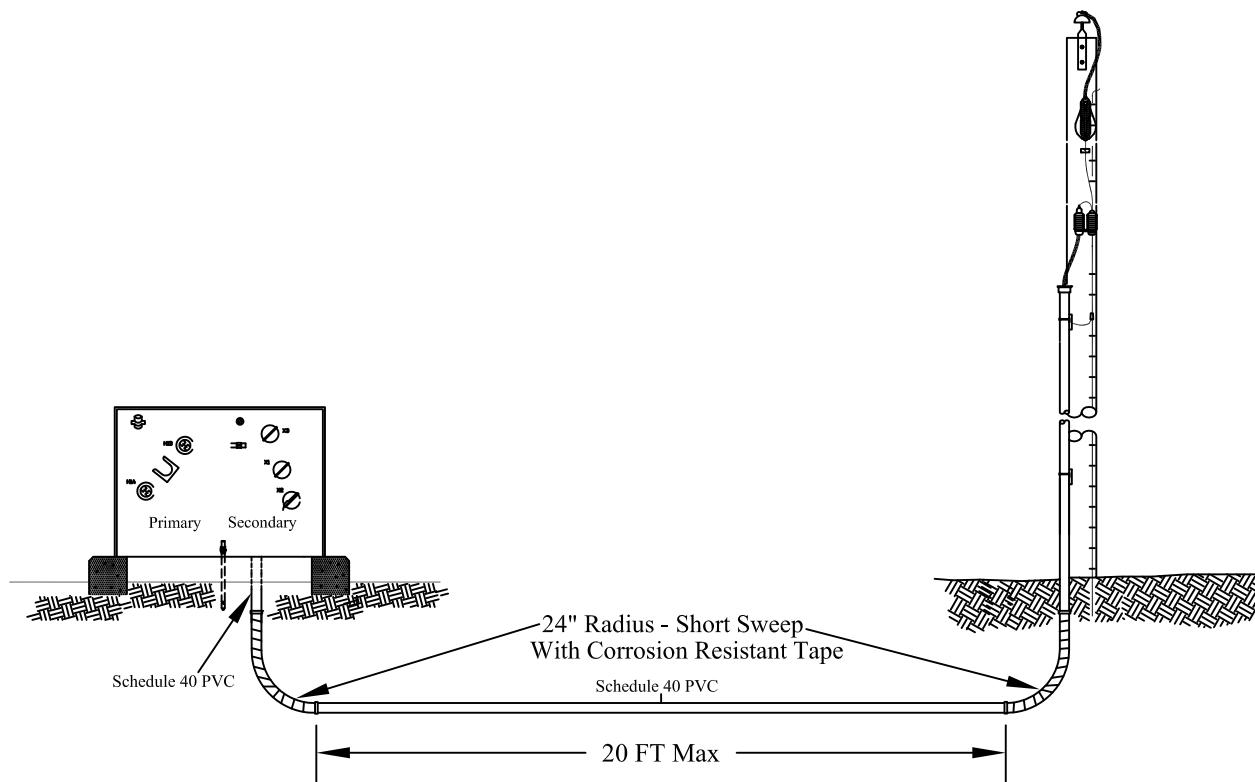
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## High Voltage Underground Installation Up To 20'

### Single Phase Installation - 2" Conduit



#### Notes

1. Contractor to furnish and install Schedule 40 PVC underground conduit.
2. Contractor to contact GJU for location of riser prior to trenching.
3. All elbows are to be Galvanized Rigid Conduit (GRC) sweeps and wrapped with corrosion tape.
4. Contractor is to install a 5/16" polypropylene pull rope in primary conduits.
5. Primary conduit is to be clean and free of obstructions. Contractor will pull a mandrel (mouse) through the conduit upon request by GJU.
6. Front (door) side of the transformer must face street or parking lot.
7. Contractor provides trench, backfill, concrete transformer pad, guard post within traffic area, metering conduit and secondary conductors.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/18/2008  
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TITLE:  
**PRIMARY CONDUIT  
INSTALLATION UP TO 20'  
SINGLE PHASE**

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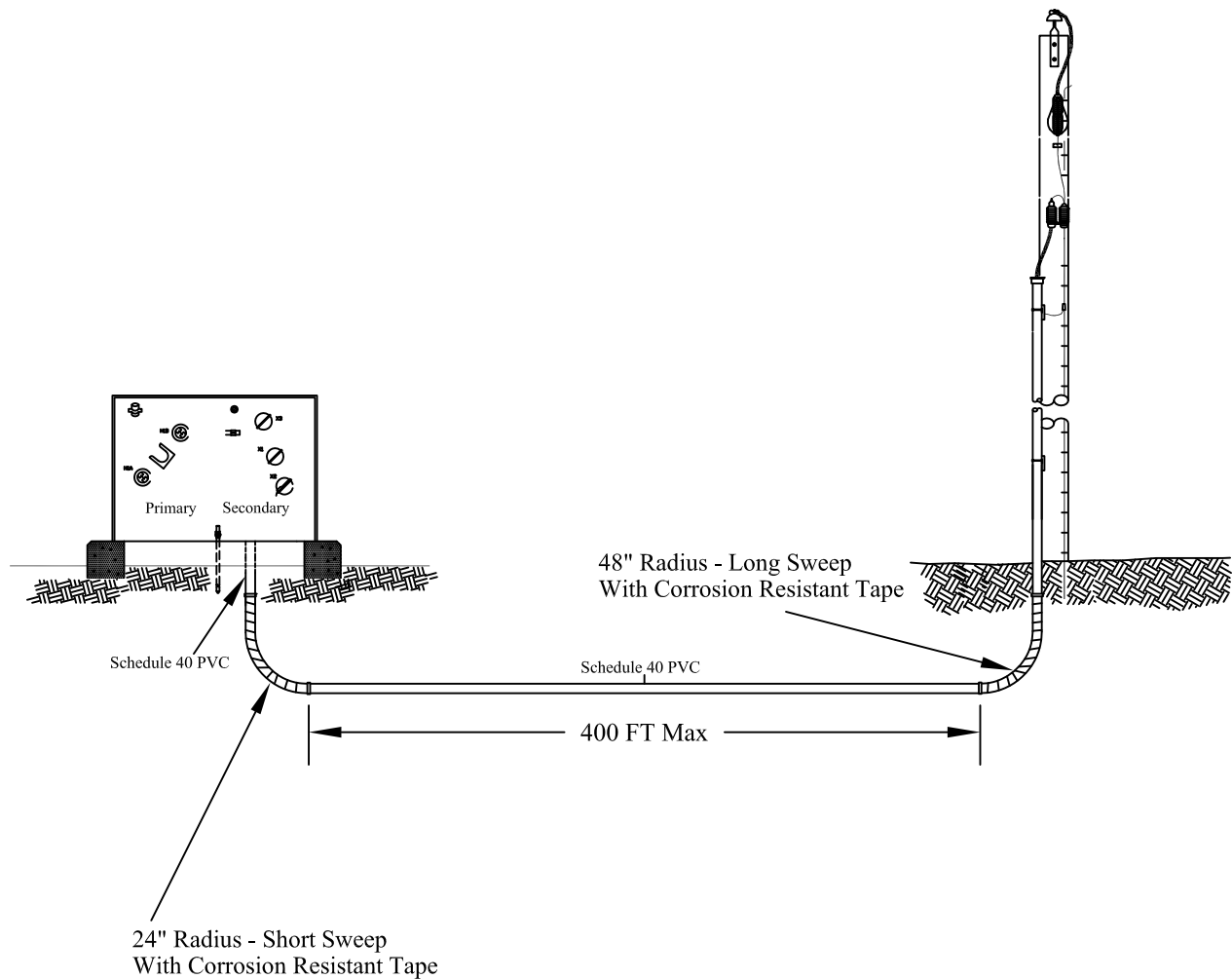
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## High Voltage Underground Installation Up To 400'

### Single Phase Installation - 2" Conduit



#### Notes

1. Contractor to furnish and install Schedule 40 PVC underground conduit.
2. Contractor to contact GJU for location of riser prior to trenching.
3. All elbows are to be Galvanized Rigid Conduit (GRC) sweeps and wrapped with corrosion tape.
4. Contractor is to install a 5/16" polypropylene pull rope in primary conduits.
5. Primary conduit is to be clean and free of obstructions. Contractor will pull a mandrel (mouse) through the conduit upon request by GJU.
6. Front (door) side of the transformer must face street or parking lot.
7. Contractor provides trench, backfill, concrete transformer pad, guard post within traffic area, metering conduit and secondary conductors.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/18/2008  
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TITLE:  
**PRIMARY CONDUIT  
INSTALLATION UP TO 400'  
SINGLE PHASE**

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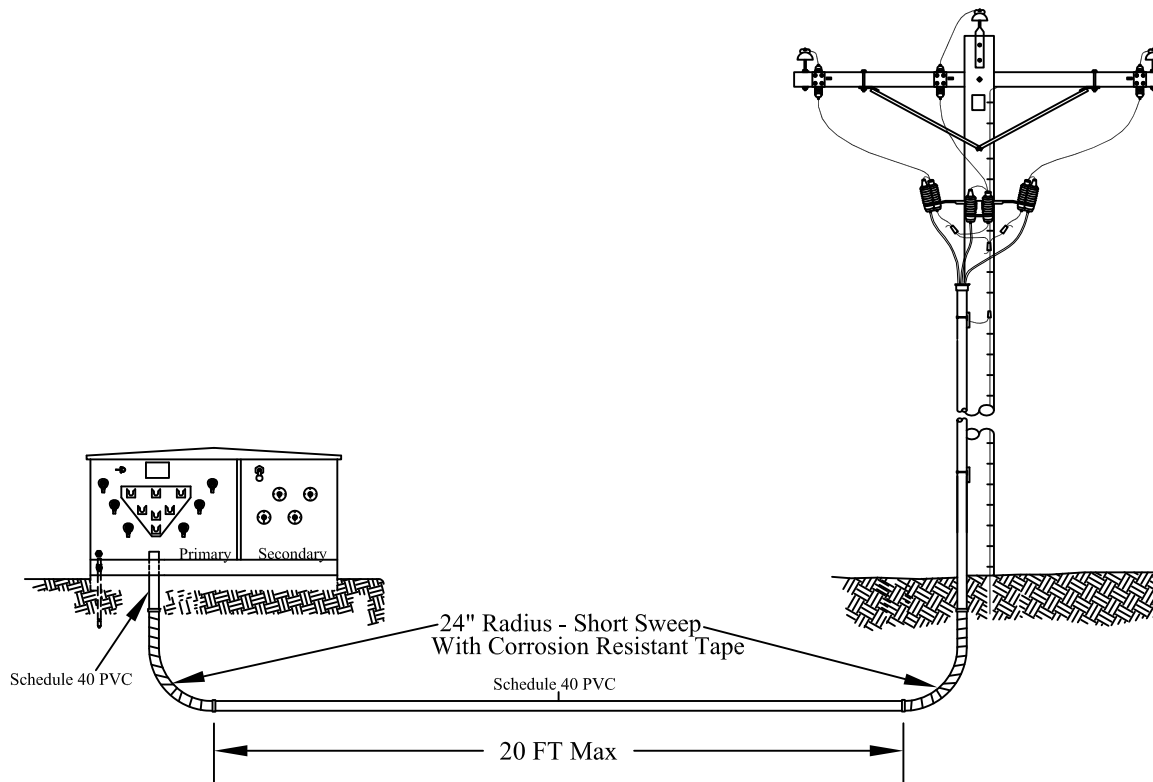
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### High Voltage Underground Installation Up To 20'

Three Phase Installation - Using No. 2 Aluminum 15 KV URD Conductor - 4" Conduit

Three Phase Installation - Using No. 4/0 Aluminum 15 KV URD Conductor - 5" to 6" Conduit



### Notes

1. Contractor to furnish and install Schedule 40 PVC underground conduit.
2. Contractor to contact GJU for location of riser prior to trenching.
3. All elbows are to be Galvanized Rigid Conduit (GRC) sweeps and wrapped with corrosion tape.
4. Contractor is to install a 5/16" polypropylene pull rope in primary conduits.
5. Primary conduit is to be clean and free of obstructions. Contractor will pull a mandrel (mouse) through the conduit upon request by GJU.
6. Front (door) side of the transformer must face street or parking lot.
7. Contractor provides trench, backfill, concrete transformer pad, guard post within traffic area, metering conduit and secondary conductors.



**GALLUP  
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UTILITIES**

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TITLE:  
**PRIMARY CONDUIT  
INSTALLATION UP TO 20'  
THREE PHASE**

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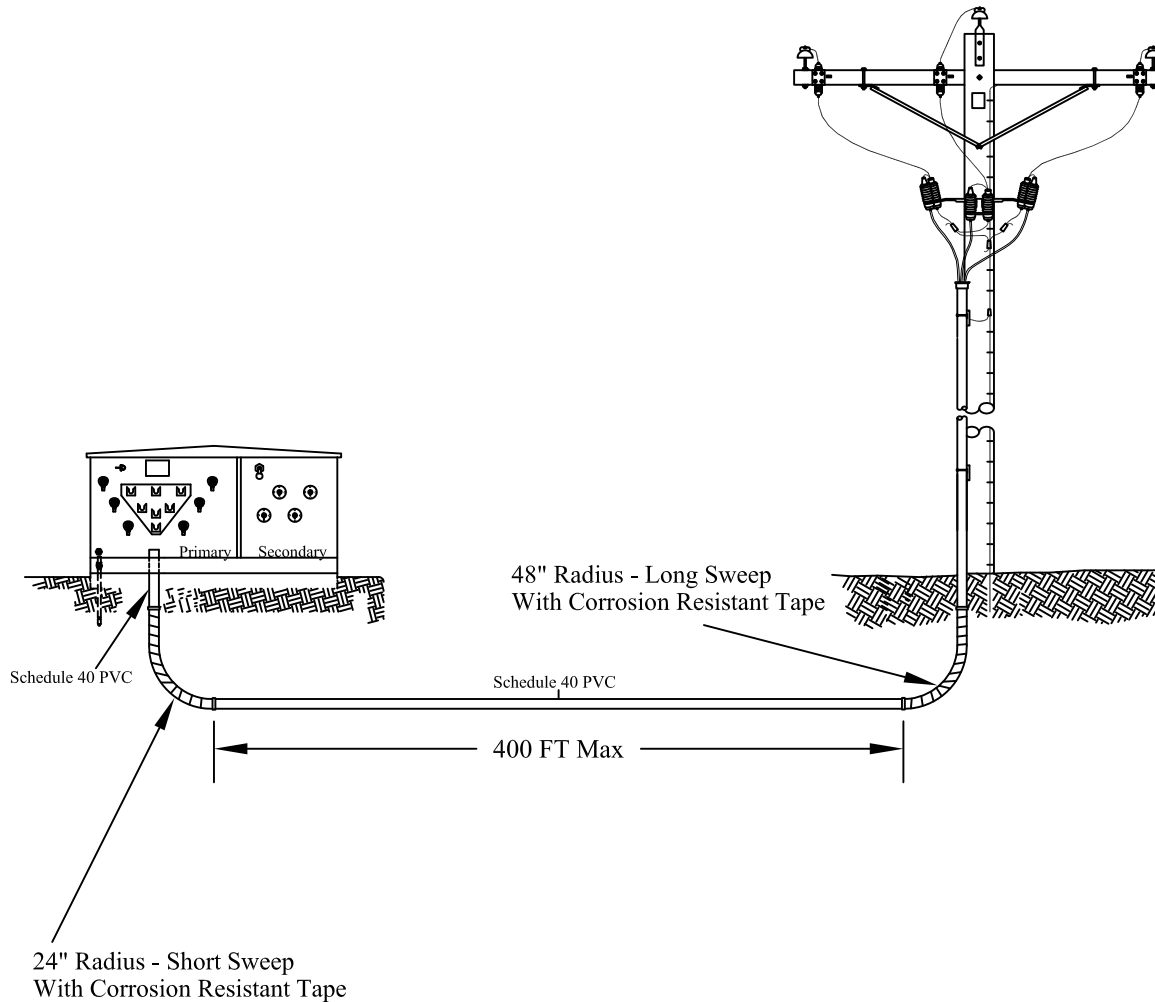
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### High Voltage Underground Installation Up To 400'

Three Phase Installation - Using No. 2 Aluminum 15 KV URD Conductor - 4" Conduit

Three Phase Installation - Using No. 4/0 Aluminum 15 KV URD Conductor - 5" to 6" Conduit



### Notes

1. Contractor to furnish and install Schedule 40 PVC underground conduit.
2. Contractor to contact GJU for location of riser prior to trenching.
3. All elbows are to be Galvanized Rigid Conduit (GRC) sweeps and wrapped with corrosion tape.
4. Contractor is to install a 5/16" polypropylene pull rope in primary conduits.
5. Primary conduit is to be clean and free of obstructions. Contractor will pull a mandrel (mouse) through the conduit upon request by GJU.
6. Front (door) side of the transformer must face street or parking lot.
7. Contractor provides trench, backfill, concrete transformer pad, guard post within traffic area, metering conduit and secondary conductors.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/18/2008  
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TITLE:  
**PRIMARY CONDUIT  
INSTALLATION UP TO 400'  
THREE PHASE**

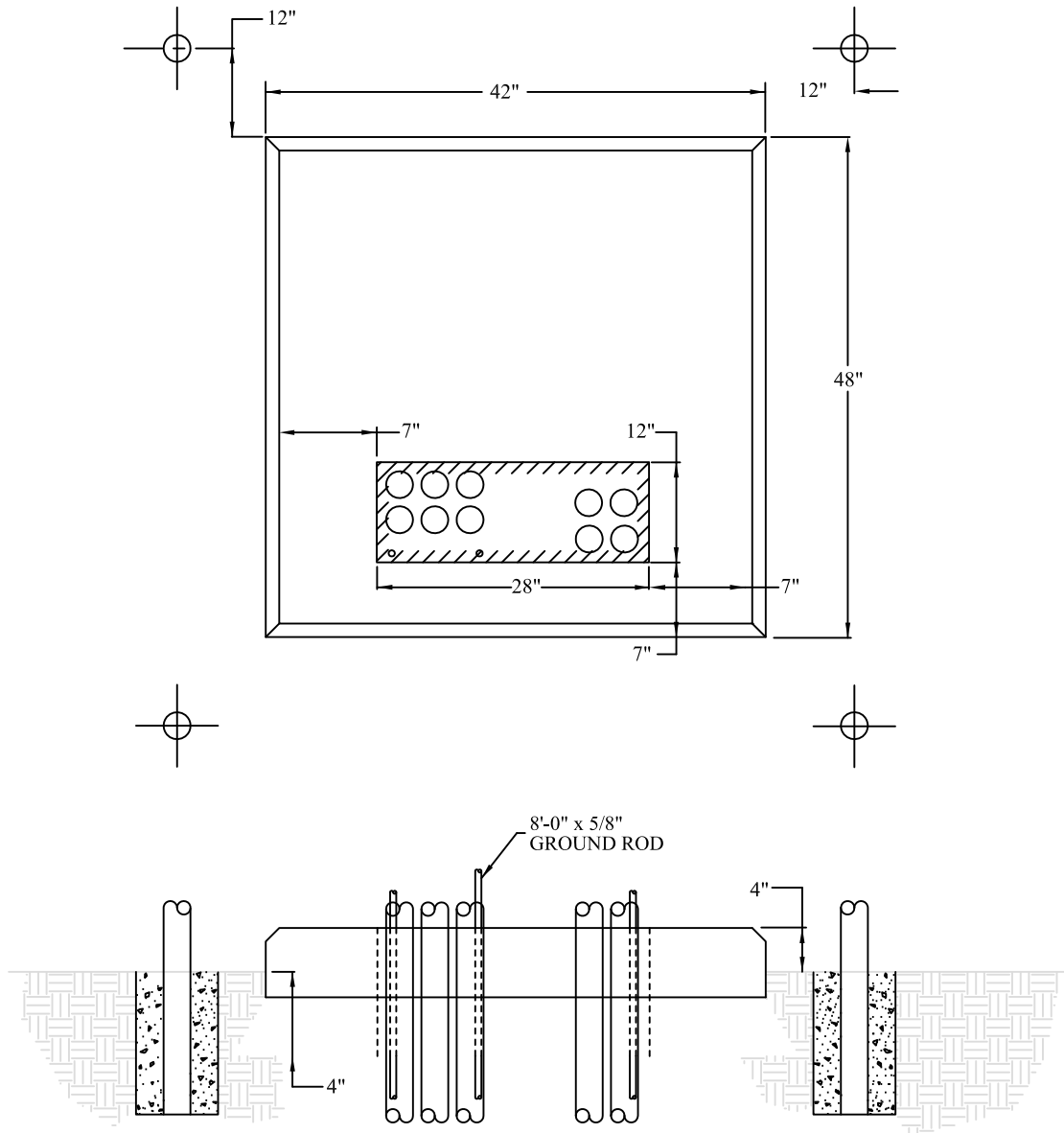
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### NOTES

1. THIS PAD IS DESIGNED TO ACCOMMODATE TRANSFORMERS 167 KVA AND SMALLER IF LARGER TRANSFORMERS ARE USED PAD DIMENSIONS SHOULD BE MODIFIED TO FIT THE SPECIFIC TRANSFORMER.
2. TRANSFORMER SHALL BE PROTECTED BY GUARD POST IF PLACED IN TRAFFIC AREA. GUARD POST SHALL CONSIST OF METAL PIPE (MIN. 3" DIA. AND 5' LONG) FILLED WITH CONCRETE AND SET IN 1'-0" DIA. AND 2'-0" DEEP.
3. MINIMUM CLEARANCE 2'-0" AROUND SIDES/BACK AND 20'-0" IN FRONT OF DOOR FOR VENTILATION AND ACCESS.
4. MINIMUM HORIZONTAL CLEARANCE BETWEEN TRANSFORMER AND ADJACENT WALLS LEFT OR RIGHT AND REAR SIDES SHALL BE 24" OR 1/10 INCH PER TOTAL KVA. FRONT SIDE SHALL BE READILY ACCESSIBLE.
5. PAD LOCATION TO PROVIDE 24 HOUR EASY ACCESS.



**GALLUP  
JOINT  
UTILITIES**

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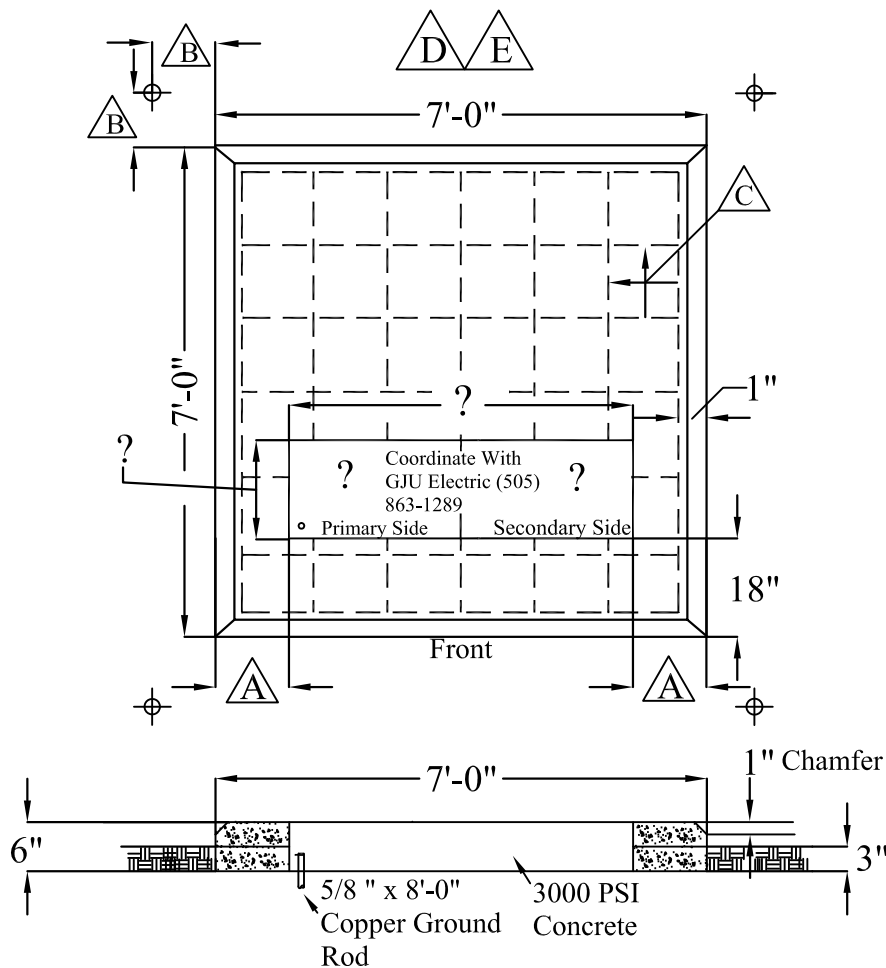
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**SINGLE PHASE  
TRANSFORMER PAD**

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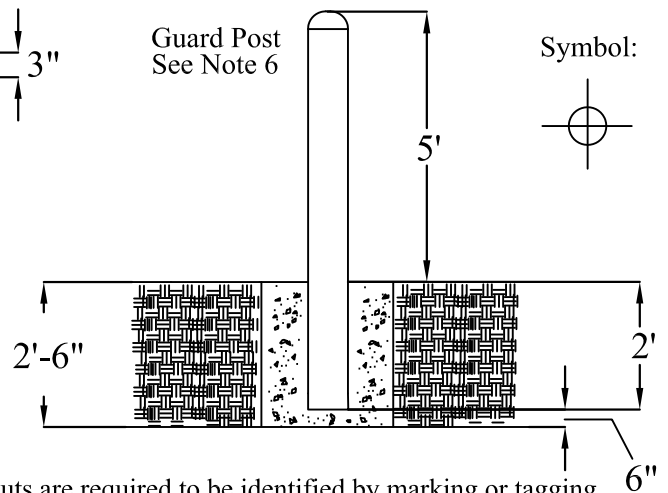
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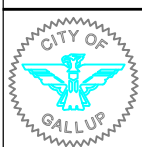
#### Construction Notes:

- A** Center cutout so that dimension A are equal.
- B** The distances of the guard pole will be 1' from the corner of the transformer pad to the center of the guard pole.
- C** Contractor will use 1/2" Reinforced Steel. The reinforced steel will be placed 12" O.C. both ways.
- D** Contact GJU for compaction inspection prior to placing the concrete.
- E** Contractor is encouraged to use air entrainment concrete.



#### Notes:

- 1) 4 inch conduit or greater is required for three phase primary cable.
- 2) Size of conduit for secondary cable will be Contractor's decision. Stub-outs are required to be identified by marking or tagging the conduit inside the transformer.
- 3) Conduit should be trimmed flush by the Contractor. Contractor is required to use GRC recommended Sweep 90° elbows. Stub-outs are required to be extended 5 feet from the transformer pad.
- 4) Transformer pad will not be placed if the surrounding area is not at final grade. The area in which the transformer pad is to be placed on should be compacted at 95 % standard proctor density or higher.
- 5) There should be a minimum clearance of 3 feet on the sides/back and 20 feet in front of the doors of the transformer for ventilation and access.
- 6) The transformer shall be protected by guard posts if placed in a traffic area. Guard posts will consist of metal pipe of at least 3 inches in diameter and 7 feet in length, with two feet below grade. The metal post will be painted red and filled with concrete.
- 7) The front side of transformer will be readily accessible.
- 8) Pad location will provide 24 hour unimpeded access.



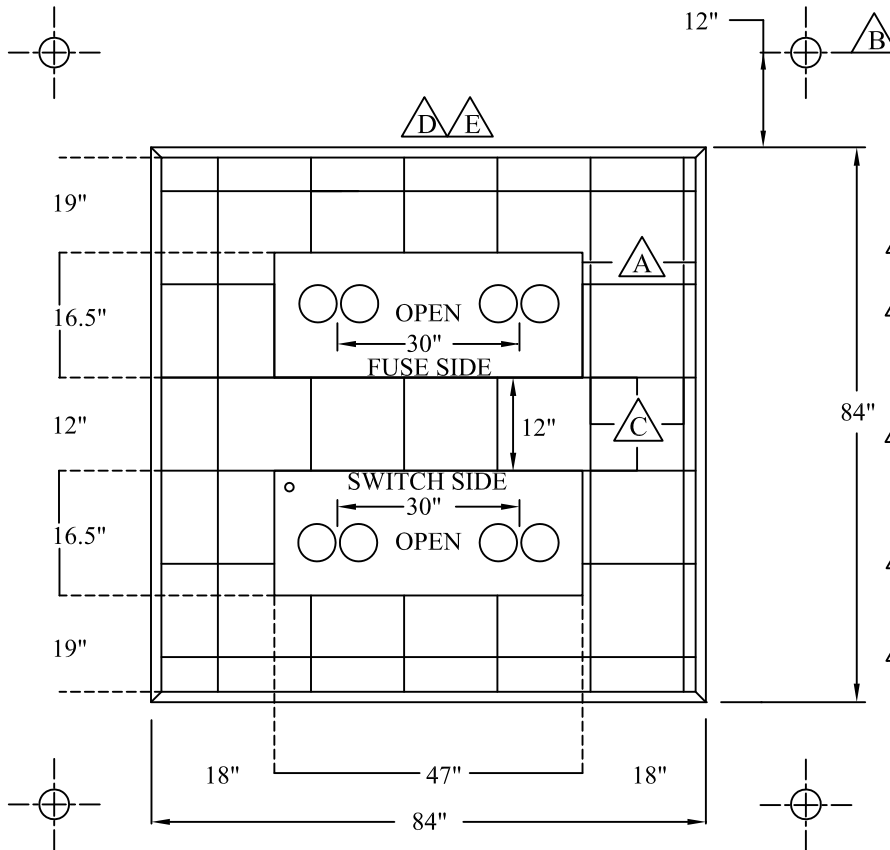
**GALLUP  
JOINT  
UTILITIES**

DATE: 06/17/02  
DRAWN BY: E.J.W.  
Checked By:  
Approved BY:  
SCALE: N.T.S.

TITLE:  
**THREE PHASE  
TRANSFORMER PAD**

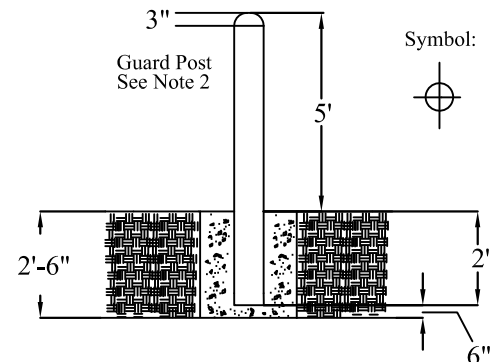
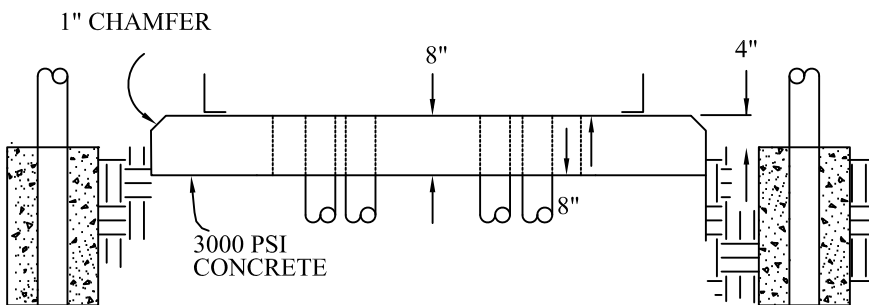
REVISIONS	
BY:	DATE:
E.J.W.	8/15/2008

STANDARD No.  
  
PAGE:  
14 OF 21



#### Construction Notes:

- A** Center cutout so that dimension A are equal.
- B** The distances of the guard pole will be 1' from the corner of the transformer pad to the center of the guard pole.
- C** Contractor will use 1/2" Reinforced Steel. The reinforced steel will be placed 12" O.C. both ways.
- D** Contact GJU for compaction inspection prior to placing the concrete.
- E** Contractor is encouraged to use air entrainment concrete.



#### NOTES

1. SWITCHGEAR SHALL BE PROTECTED BY GUARD POST IF PLACED IN TRAFFIC AREA. GUARD POSTS SHALL CONSIST OF CONCRETE FILLED METAL PIPE (MIN. 3" DIA. AND 7' LONG) AND SET IN CONCRETE (MIN. 1' DIA. AND 2' DEEP)
2. BRING CONDUITS UP FLUSH WITH PAD. USE RGS ELBOWS & BUSHINGS.
3. PROVIDE SPARE CONDUIT STUBS.
4. MUST BE COMPLETELY ACCESSIBLE FOR OPERATION & MAINTENANCE.
5. GROUND RODS MUST BE INSTALLED AS PER SWITCHGEAR SPECIFICATIONS.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/20/08  
DRAWN BY: E.J.W.  
APR'D BY:  
APR'D BY:  
SCALE: N.T.S.

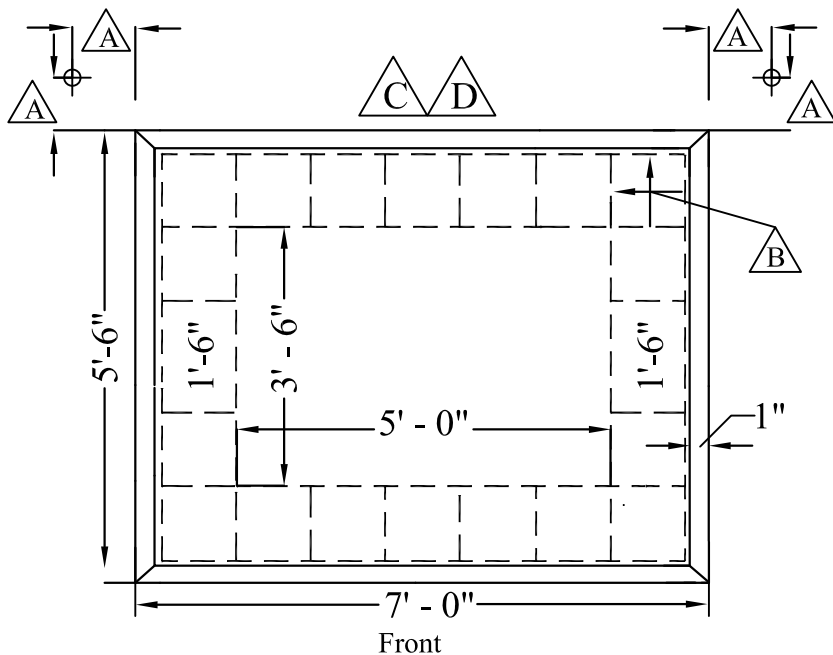
TITLE:  
**SWITCHGEAR PAD  
(200 AMPERES)**

REVISIONS	
BY:	DATE:

STANDARD No.

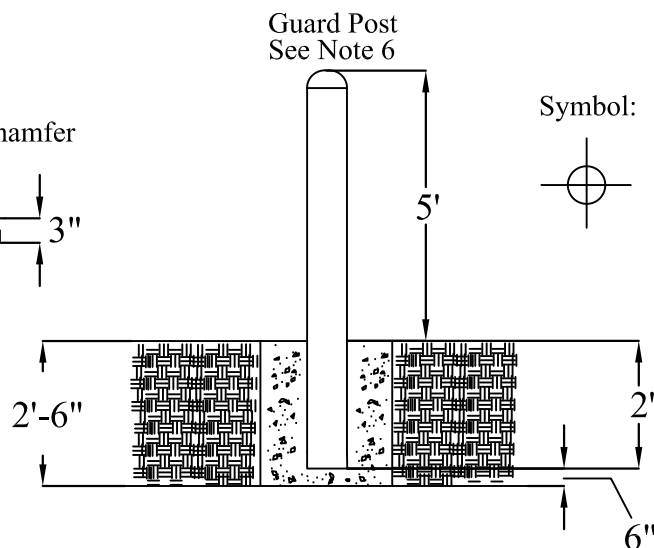
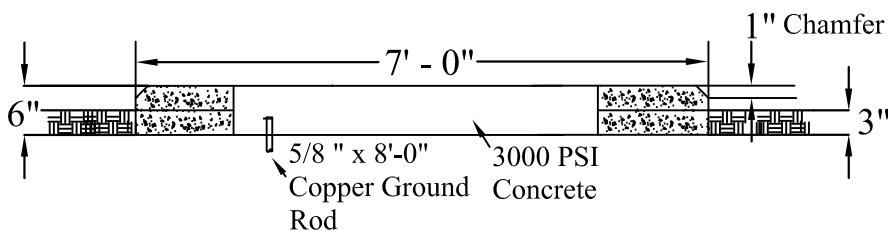
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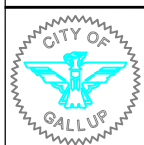
**Construction Notes:**

- A** The distances of the guard pole will be 1' from the corner of the transclosure pad to the center of the guard pole.
- B** Contractor will use 1/2" Reinforced Steel. The reinforced steel will be placed 12" O.C. both ways.
- C** Contact GJU for compaction inspection prior to placing the concrete.
- D** Contractor is encouraged to use air entrainment concrete.



**Notes:**

- 1) 4 inch conduit or greater is required for three phase primary cable.
- 2) Transclosure pad will not be placed if the surrounding area is not at final grade. The area in which the transclosure pad is to be placed on should be compacted at 95 % standard proctor density or higher.
- 3) There should be a minimum clearance of 3 feet on the sides/back and 20 feet in front of the door.
- 4) The transclosure shall be protected by guard posts if placed in a traffic area. Guard posts will consist of metal pipe of at least 3 inches in diameter and 7 feet in length, with two feet below grade. The metal post will be painted red and filled with concrete.
- 5) The front side of transclosure will be readily accessible.
- 6) Pad location will provide 24 hour unimpeded access.



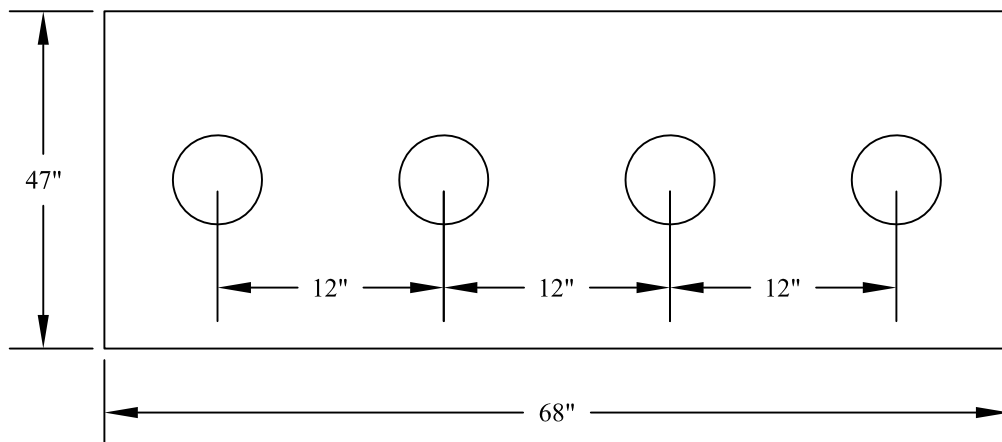
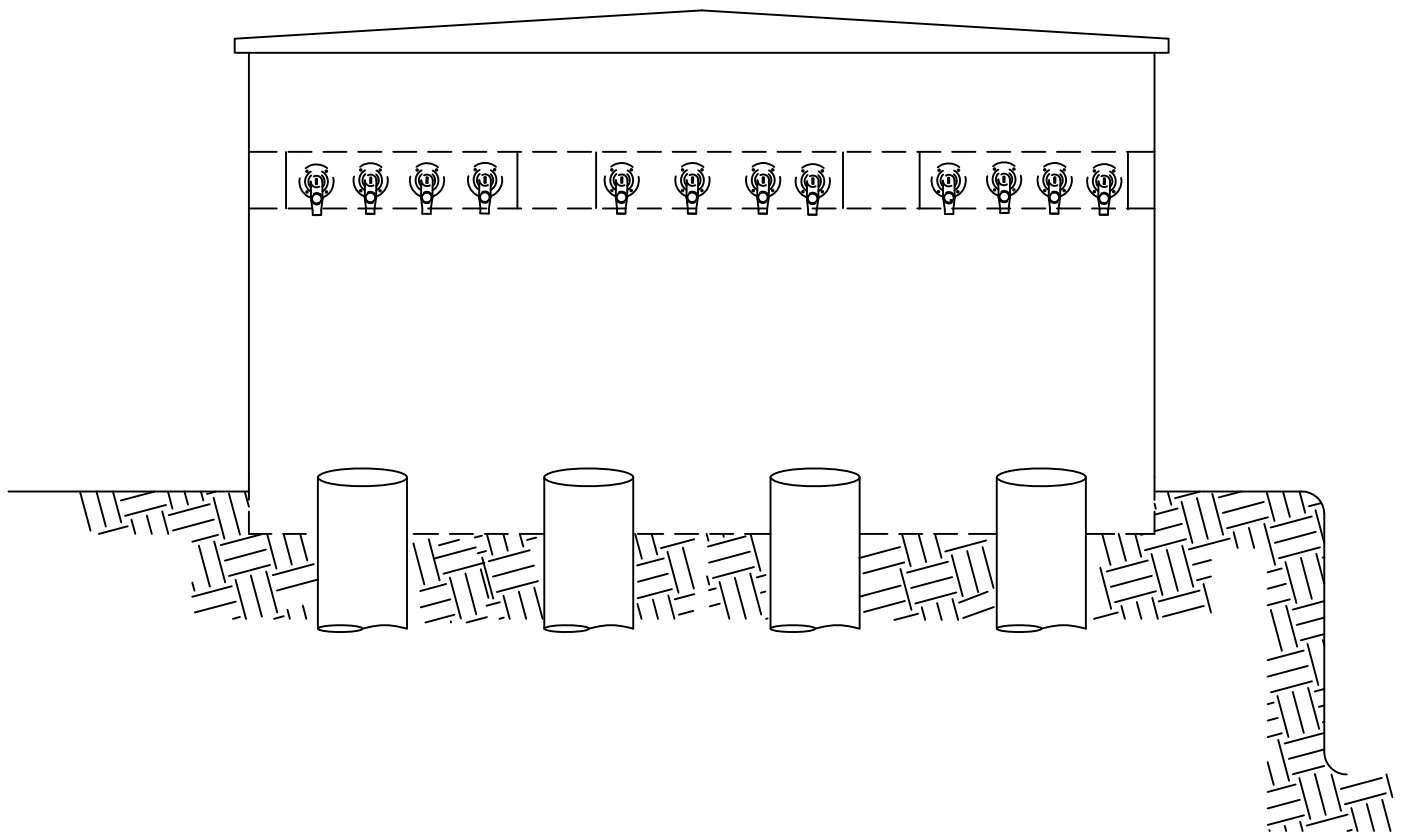
**GALLUP  
JOINT  
UTILITIES**

DATE: 06/17/02  
DRAWN BY: E.J.W.  
Checked By:  
Approved BY:  
SCALE: N.T.S.

**TITLE:**  
**THREE PHASE  
TRANSCLOSURE PAD**

REVISIONS	
BY:	DATE:
E.J.W.	6/9/2009

STANDARD No.  
  
PAGE:  
16 OF 21



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/20/08  
DRAWN BY: E.J.W.  
APRV'D BY:  
APRV'D BY:  
SCALE: N.T.S.

TITLE:

### THREE PHASE SECTIONALIZING ENCLOSURE

REVISIONS

BY:

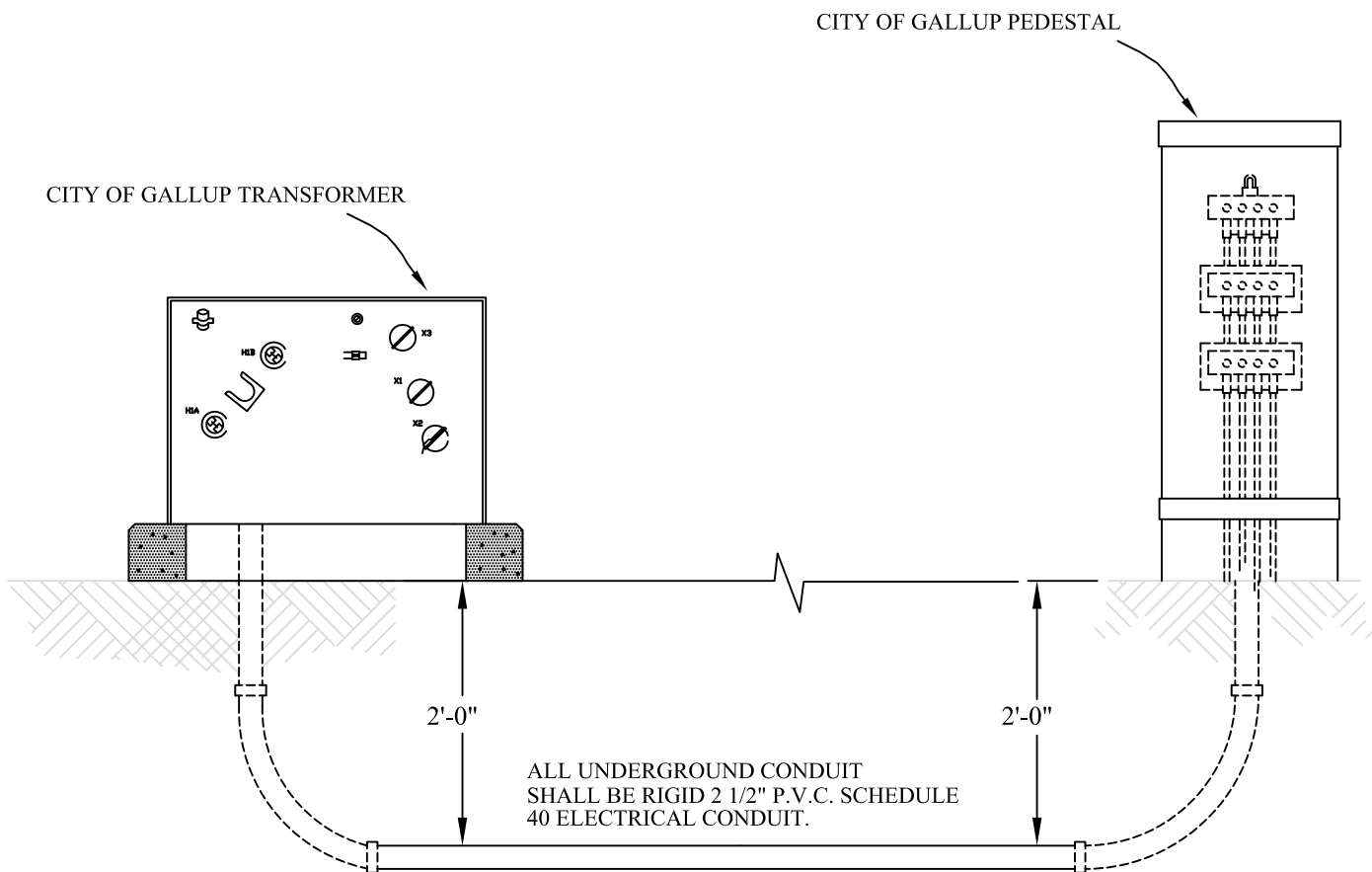
DATE:

STANDARD No.

PAGE:

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#### NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, CONDUIT, AND CONDUCTOR FOR THE SECONDARY INSTALLATION.
2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/22/08  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 APRV'D BY:  
 SCALE: N.T.S.

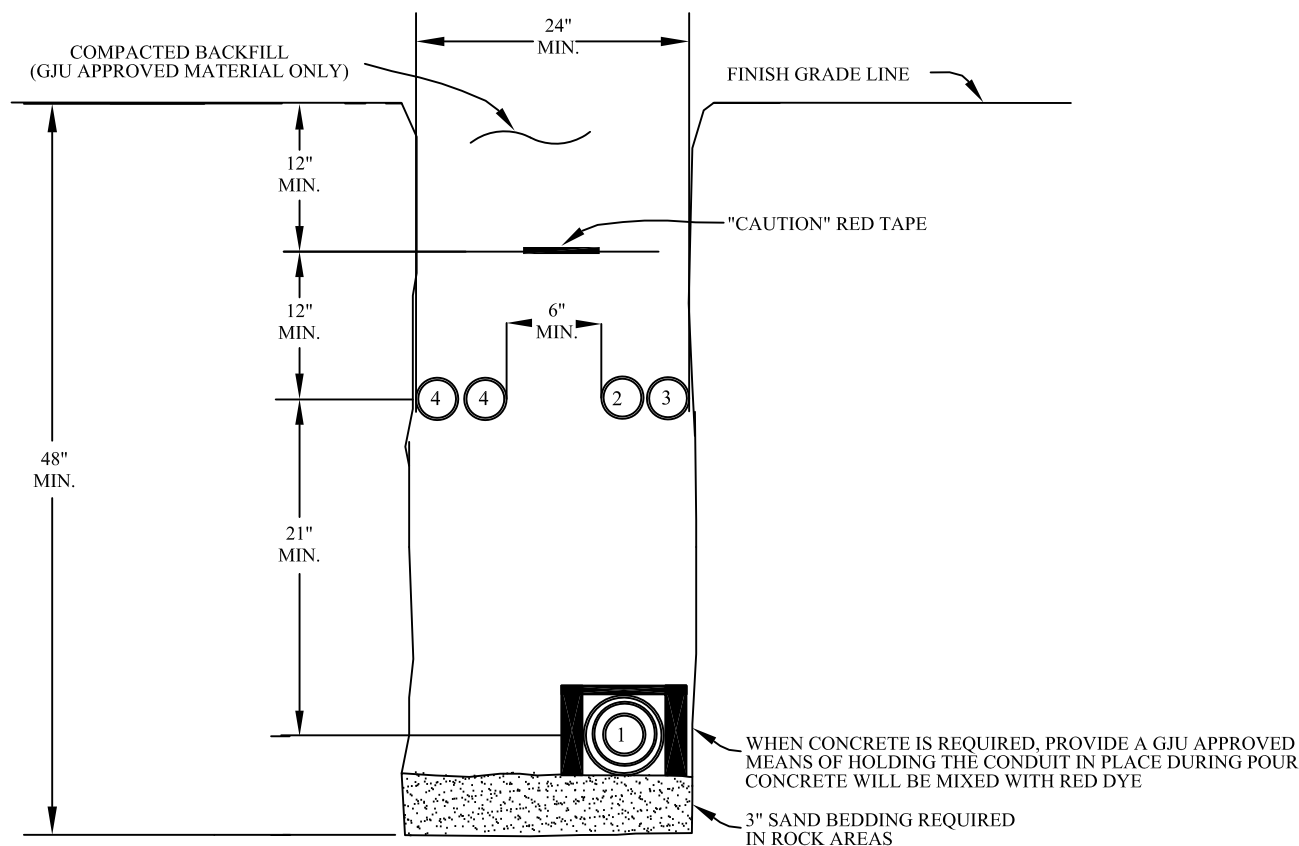
TITLE:  
**SECONDARY  
 UNDERGROUND PEDESTAL**

REVISIONS	
BY:	DATE:

STANDARD No.

PAGE:

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#### NOTES:

##### LOCATIONS OF CONDUITS WHEN NEEDED

1. 5" DIA. and 6" DIA. ELECTRIC CONDUIT FOR No. 4/0 - No. 500 MCM 3Ø PRIMARY CONDUCTORS  
4" DIA. ELECTRIC CONDUIT FOR No. 2 3Ø PHASE PRIMARY CONDUCTORS  
2" DIA. ELECTRIC CONDUIT FOR No. 2 1Ø PHASE PRIMARY CONDUCTORS
2. 2 1/2" DIA ELECTRIC CONDUITS FOR SECONDARY CONDUCTORS
3. 2 1/2" DIA. STREETLIGHT CONDUITS
4. CATV CABLE/TELE CABLE

#### SPECIAL NOTES:

1. NO BACKFILLING UNTIL BEDDING IS INSPECTED AND APPROVED BY GJU.
2. IF ROCK IS ENCOUNTERED AND PREVENTS THE CONDUIT FROM BEING PLACED AT THE MINIMUM DEPTH OF 48" CONTACT GJU.



**GALLUP  
JOINT  
UTILITIES**

DATE: 8/21/2008  
DRAWN BY: E.J.W.  
APPR'D BY:  
APPR'D BY:  
SCALE: N.T.S.

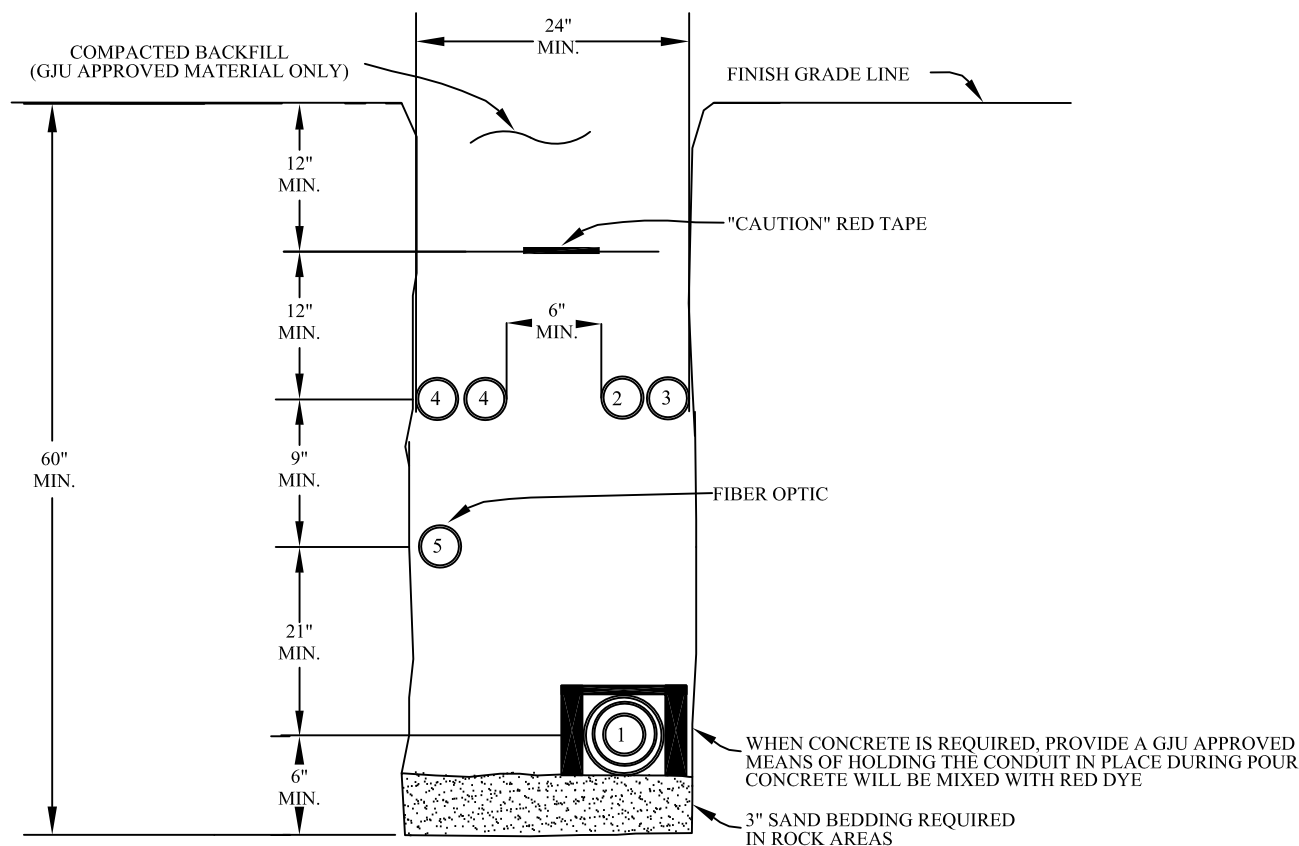
TITLE:  
**4FT TRENCH – DETAIL  
SINGLE PRIMARY CONDUIT**

REVISIONS	
BY:	DATE:
E.J.W.	02/15/2011

STANDARD No.

PAGE:

19 OF 21



#### NOTES:

##### LOCATIONS OF CONDUITS WHEN NEEDED

1. 5" DIA. and 6" DIA. ELECTRIC CONDUIT FOR No. 4/0 - No. 500 MCM 3Ø PRIMARY CONDUCTORS
- 4" DIA. ELECTRIC CONDUIT FOR No. 2 3Ø PHASE PRIMARY CONDUCTORS
- 2" DIA. ELECTRIC CONDUIT FOR No. 2 1Ø PHASE PRIMARY CONDUCTORS
2. 2 1/2" DIA ELECTRIC CONDUITS FOR SECONDARY CONDUCTORS
3. 2 1/2" DIA. STREETLIGHT CONDUITS
4. CATV CABLE/TELE CABLE
5. COMMUNICATION FIBER OPTIC

#### SPECIAL NOTES:

1. NO BACKFILLING UNTIL BEDDING IS INSPECTED AND APPROVED BY GJU.
2. IF ROCK IS ENCOUNTERED AND PREVENTS THE CONDUIT FROM BEING PLACED AT THE MINIMUM DEPTH OF 60" CONTACT GJU.
3. TRENCHES 60" INCHES AND GREATER REQUIRE ADDITIONAL SUPPORT FROM ELECTRIC DEPARTMENT VEHICLES CONTACT GJU.



**GALLUP  
JOINT  
UTILITIES**

DATE: 8/21/2008  
DRAWN BY: E.J.W.  
APR'D BY:  
APR'D BY:  
SCALE: N.T.S.

TITLE:  
**5FT TRENCH – DETAIL  
SINGLE PRIMARY CONDUIT**

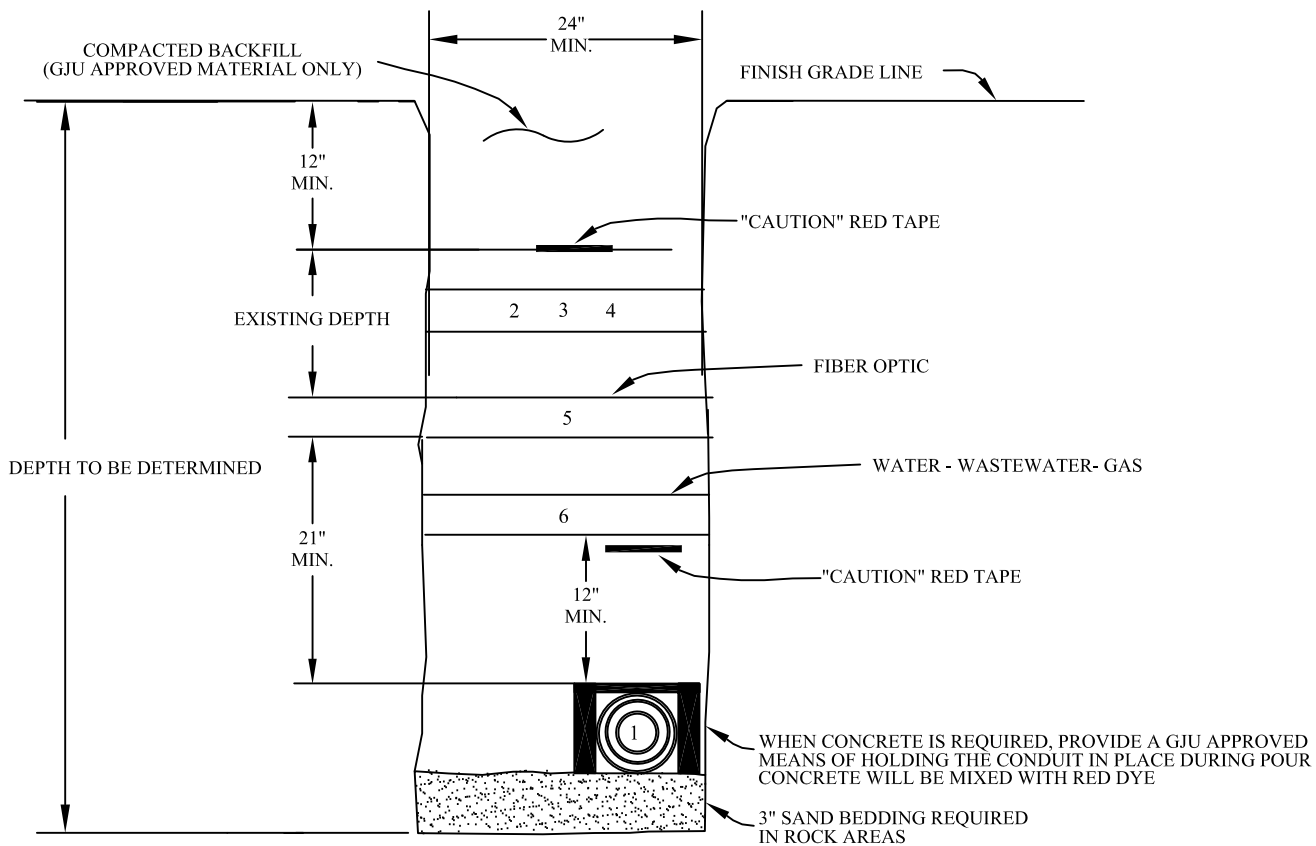
#### REVISIONS

BY:	DATE:
E.J.W.	02/15/2011

STANDARD No.

PAGE:

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#### NOTES:

##### LOCATIONS OF CONDUITS WHEN NEEDED

1. 5" DIA. and 6" DIA. ELECTRIC CONDUIT FOR No. 4/0 - No. 500 MCM 3Ø PRIMARY CONDUCTORS
- 4" DIA. ELECTRIC CONDUIT FOR No. 2 3Ø PHASE PRIMARY CONDUCTORS
- 2" DIA. ELECTRIC CONDUIT FOR No. 2 1Ø PHASE PRIMARY CONDUCTORS
2. 2 1/2" DIA ELECTRIC CONDUITS FOR SECONDARY CONDUCTORS
3. 2 1/2" DIA. STREETLIGHT CONDUITS
4. CATV CABLE/TELE CABLE
5. COMMUNICATION FIBER OPTIC
6. WATER, WASTER WATER AND GAS

#### SPECIAL NOTES:

1. NO BACKFILLING UNTIL BEDDING IS INSPECTED AND APPROVED BY GJU.
2. IF ROCK IS ENCOUNTERED AND PREVENTS THE CONDUIT FROM BEING PLACED AT THE MINIMUM DEPTH OF 60" CONTACT GJU.
3. TRENCHES 60" INCHES AND GREATER REQUIRE ADDITIONAL SUPPORT FROM ELECTRIC DEPARTMENT VEHICLES CONTACT GJU.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/13/2009

DRAWN BY: E.J.W.

APRVD BY:

APRVD BY:

SCALE: N.T.S.

TITLE:

## PRIMARY INSTALLATION UNDER EXISTING UTILITIES

#### REVISIONS

BY:

DATE:

STANDARD No.

PAGE:

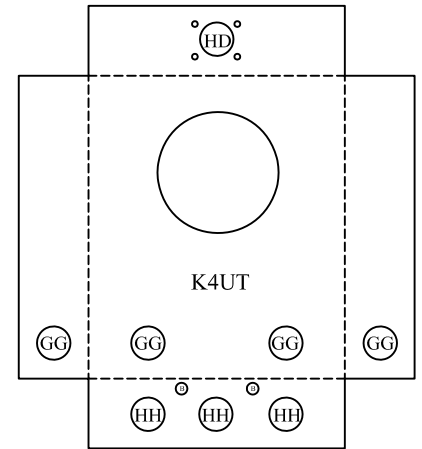
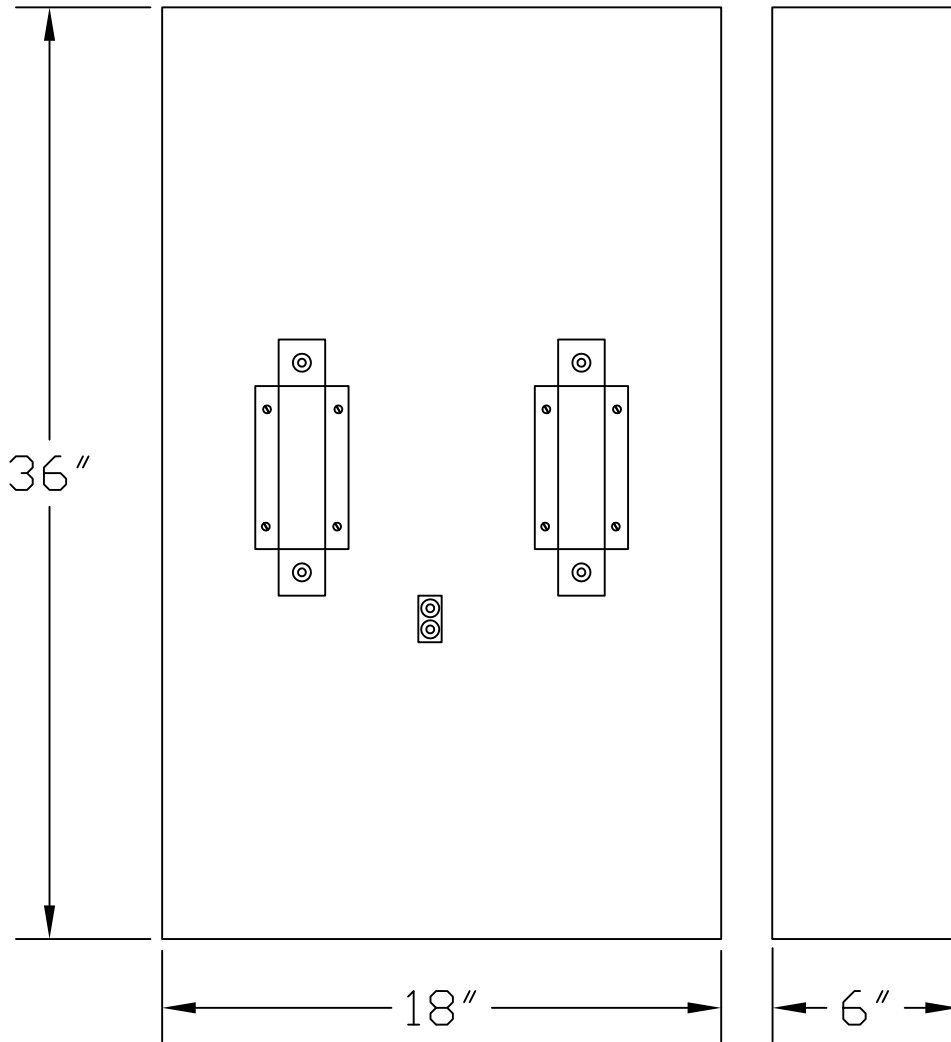
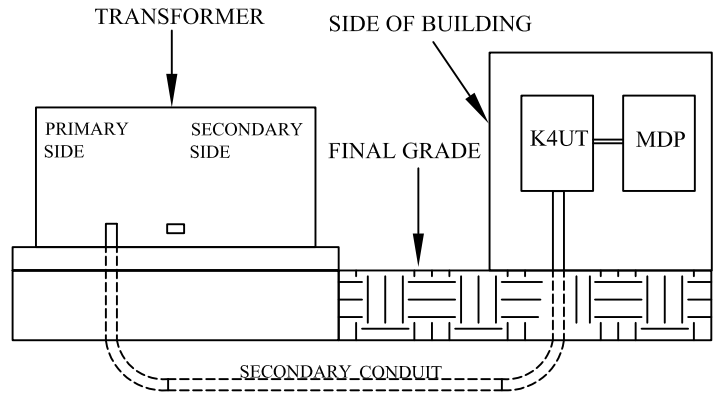
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## METERING

PROJECT REQUIRING SINGLE PHASE 400 METER ENCLOSURE  
 CTS NOT REQUIRED - NOT A MAIN DISCONNECT

METER PANEL SPECIFICATIONS

- 1) 400-480 AMP CONTINUOUS METER MOUNTING EQUIPMENT - TYPE K-4UT - RESIDENTIAL /COMMERCIAL
- 4 TERMINAL FOR SINGLE PHASE - 3 WIRE
- 2) 36" HIGH X 18" WIDE X 6" DEEP
- 3) BYPASS NO - 56495
- 4) URD SERVICE ONLY - MULTIPLE SERVICES APPROVED
- 5) HD HUB OPENING
- 6) STEEL ENCLOSURE
- 7) LANDIS AND GYR CATALOG NO - 9810-8507



RECOMENDED LUGS

LUG POSITION	SINGLE CAT NO	PARALLEL CAT NO
LINE	(2) 56733 S.E.	(2) 56427 S.E.
LOAD	(2) 56477 STD	(2) 56425 STD
NEUTRAL	(2) 56476 STD	(2) 56426 STD

KNOCKOUTS (INCHES)

B: 1/2,3/4
GG: 2-1/2, 3, 3-1/2
HH: 2-1/2, 3, 3-1/2, 4
HD: Ø4.281 HUB OP



**GALLUP  
 JOINT  
 UTILITIES**

DATE: 08/19/08  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 SCALE: N.T.S.

TITLE:

**400 AMP SINGLE PHASE  
 METER ENCLOSURE  
 CTS NOT REQUIRED**

REVISIONS

BY: DATE:

STANDARD No.

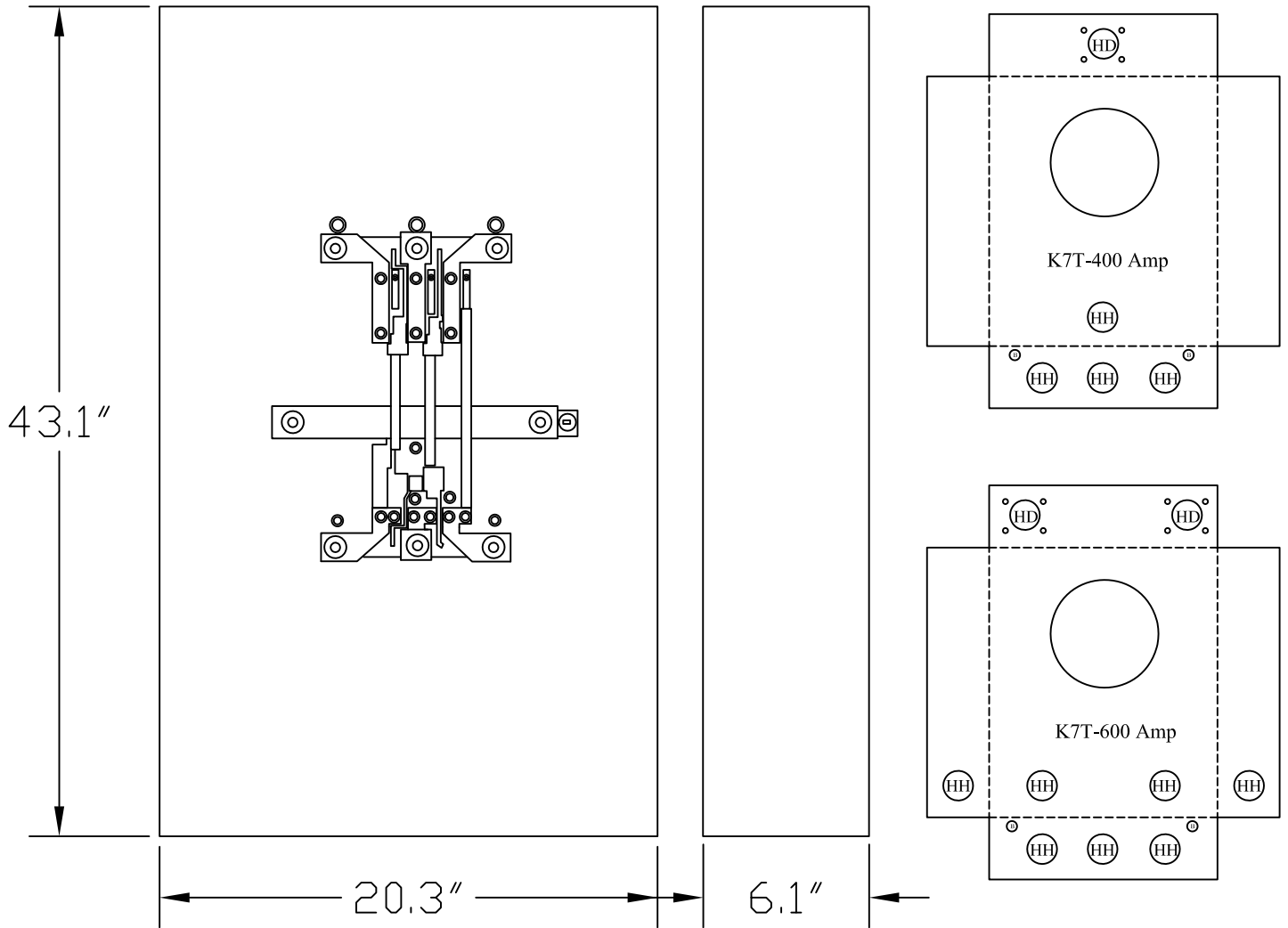
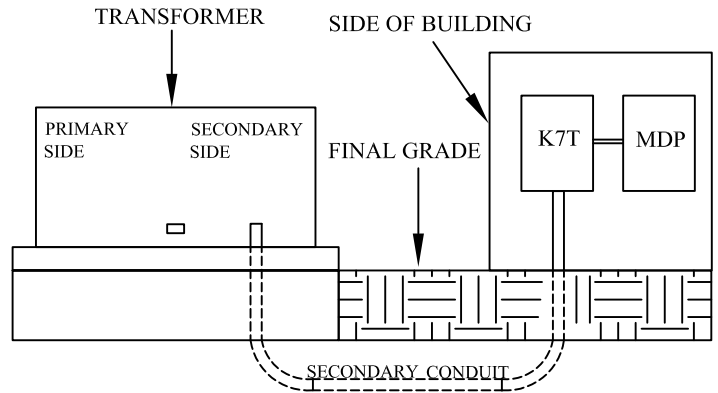
PAGE:

1 OF 7

PROJECT REQUIRING POLYPHASE 400/600 METER ENCLOSURE  
 CTS NOT REQUIRED - NOT A MAIN DISCONNECT

METER PANEL SPECIFICATIONS

- 1) 480/600 AMP CONTINUOUS METER MOUNTING EQUIPMENT - TYPE K7- RESIDENTIAL /COMMERCIAL
- 7 TERMINAL FOR POLYPHASE - 3 & 4 WIRE
- 2) 43.1" HIGH X 20.3" WIDE X 6.1" DEEP
- 3) BYPASS NO - 58888 or 69623
- 4) URD SERVICE ONLY - MULTIPLE SERVICES APPROVED
- 5) HD HUB OPENING
- 6) STEEL ENCLOSURE
- 7) LANDIS AND GYR CATALOG NO - 9817-9506



KNOCKOUTS (INCHES)

B: 1/2,3/4
HH: 2-1/2, 3, 3-1/2, 4
HD: Ø4.281 HUB OP



**GALLUP  
 JOINT  
 UTILITIES**

DATE: 1/28/2011  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 APRV'D BY:  
 SCALE: N.T.S.

TITLE:

**400/600 AMP POLYPHASE  
 METER ENCLOSURE  
 CTS NOT REQUIRED**

REVISIONS

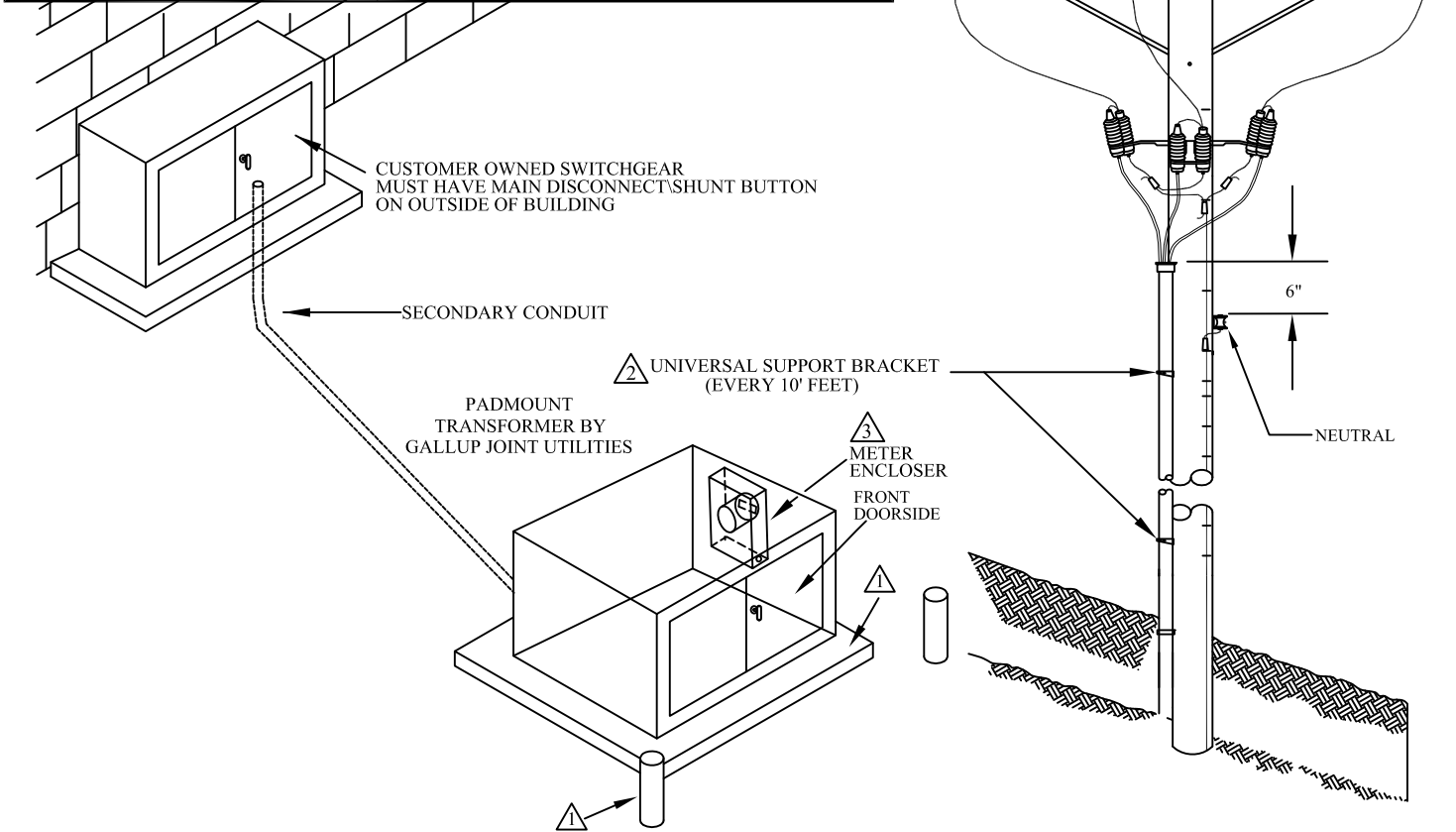
BY: DATE:

STANDARD No.

PAGE:

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MAX # OF SECONDARY CONDUCTORS PER PHASE					
SECONDARY VOLTAGE	TRANSFORMER KVA SIZE				
	75	150	300	500	750
120 / 208Y	6 350 MCM	6 350 MCM	8 750 MCM	8 750 MCM	N/A
277 / 480Y	6 350 MCM	6 350 MCM	6 350 MCM	8 750 MCM	8 750 MCM



REFERENCES

- 1 SEE THREE PHASE TRANSFORMER PAD
- 2 SEE UNIVERSAL SUPPORT BRACKET
- 3 SEE METER PANEL SINGLE CUSTOMER

NOTES

1. TRANSFORMER SHALL BE PROTECTED BY GUARD POSTS IF PLACED IN TRAFFIC AREA.
2. SEE TABLE ABOVE FOR MAX NUMBER OF SECONDARY CONDUCTORS PER PHASE.
3. CONCRETE PAD-GUARD POST AND SECONDARY CONDUCTORS PROVIDED BY CUSTOMER.
4. METERING CONDUIT BY CUSTOMERS.
5. FRONT (DOOR) SIDE OF TRANSFORMER MUST FACE STREET OR PARKING LOT.



GALLUP  
JOINT  
UTILITIES

DATE:	08/15/08
DRAWN BY:	E.J.W.
APRV'D BY:	
APRV'D BY:	
SCALE:	N.T.S.

TITLE:  
COMMERCIAL SERVICE ENTRANCE  
METER ON TRANSFORMER

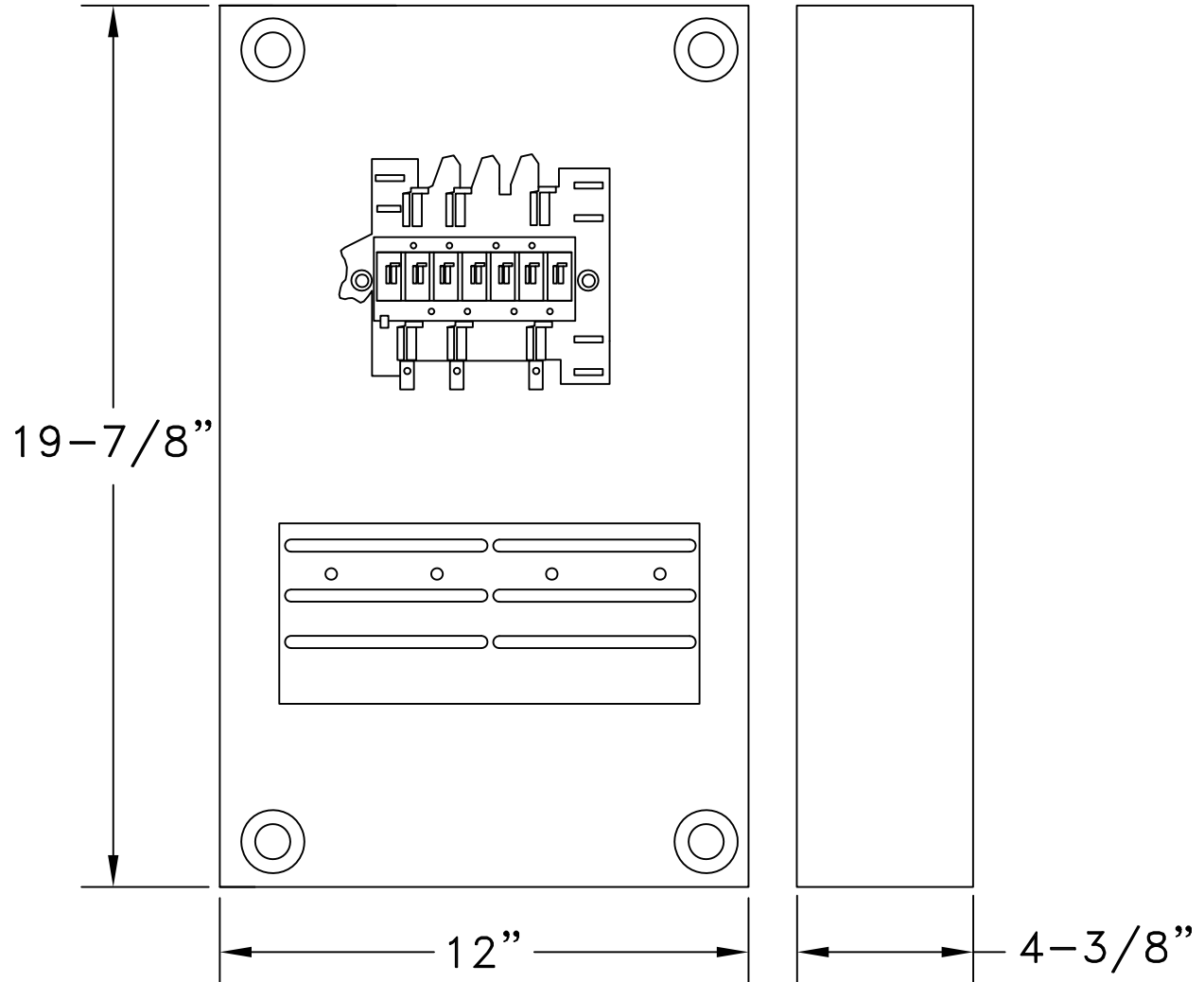
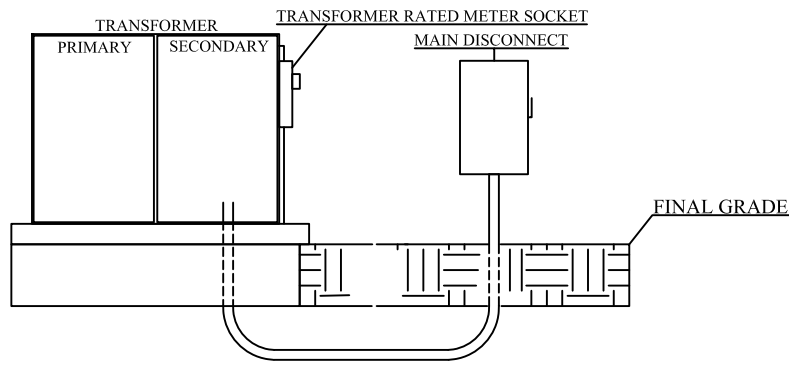
REVISIONS	
BY:	DATE:

STANDARD No.

PAGE:

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Meter Panel Specifications:

- 1) NEMA ; ANSI C12.7; UL414
- 2) 19-7/8" High x 12" Wide x 4-3/4" Depth
- 3) One Piece Cover - Ringless Only
- 4) AW Hub Provision
- 5) Meter Devices Company, Inc Catalog  
No. 601-3010A13 or Equivalent



**GALLUP  
JOINT  
UTILITIES**

DATE: 06/30/11  
DRAWN BY: E.J.W.  
APRV'D BY:  
APRV'D BY:  
SCALE: N.T.S.

TITLE:

**TRANSFORMER RATED  
METER SOCKET  
SINGLE CUSTOMER OVER 200 AMPS**

REVISIONS

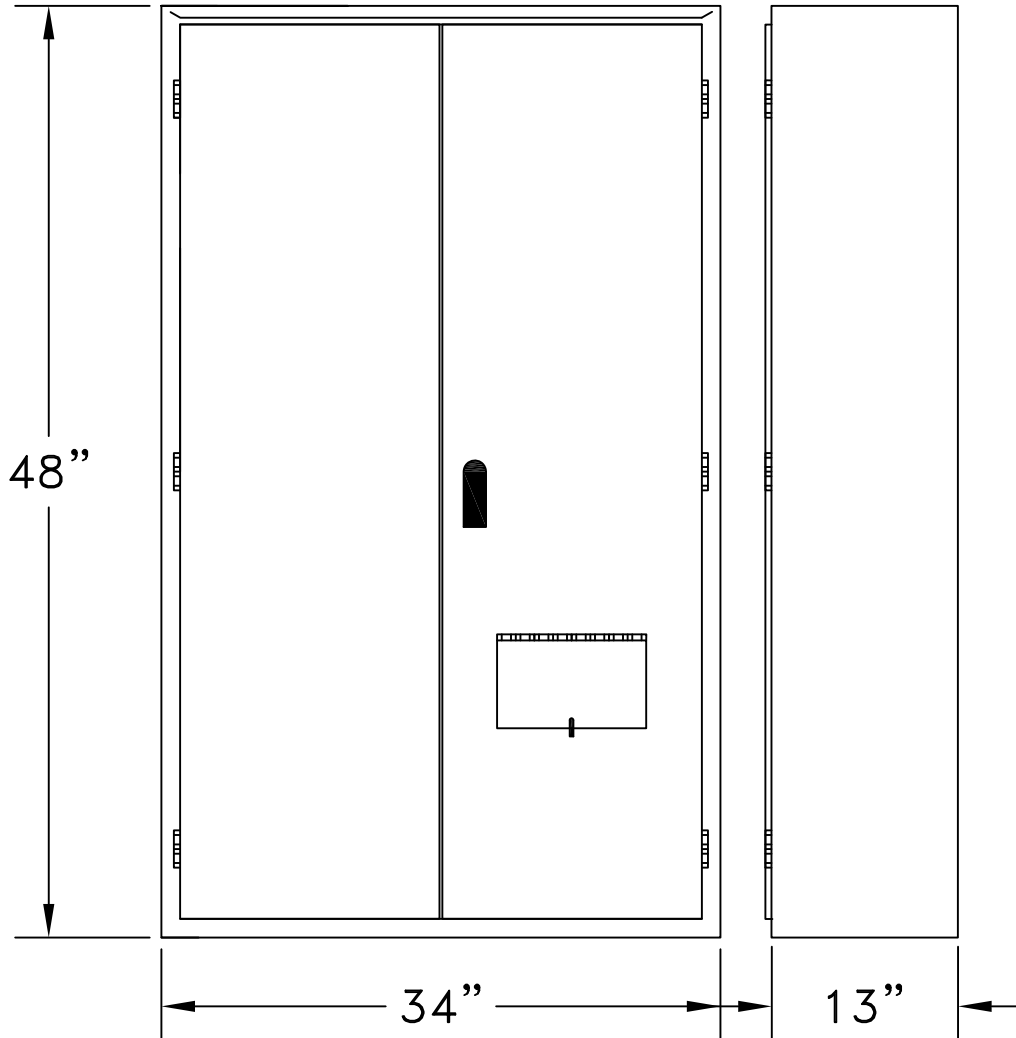
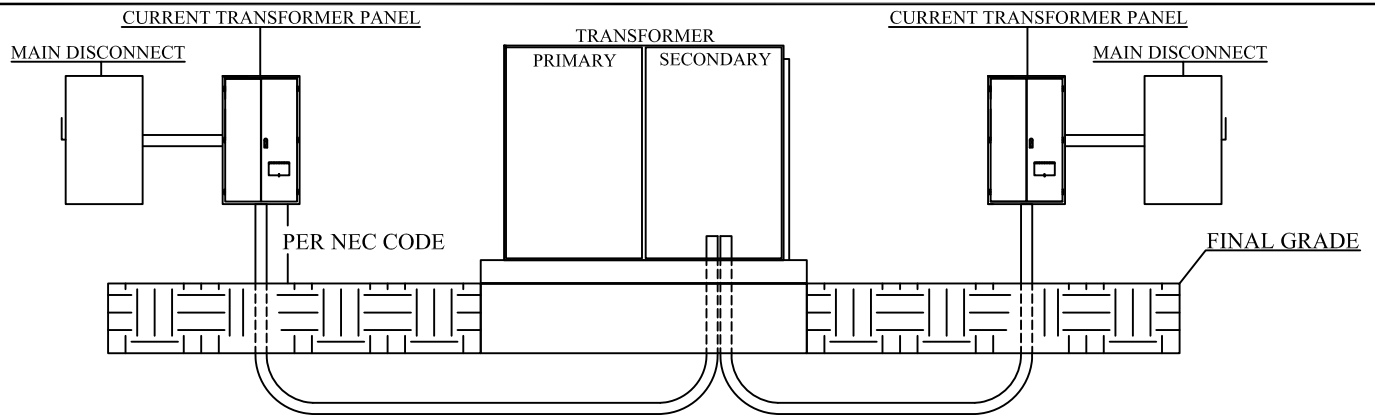
BY:

DATE:

STANDARD No.

PAGE:

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Current Transformer and Meter Combination Panel Specifications with viewing window:

Meter Panel Specifications:

- 1) Type 3R Construction
- 2) 48" High x 34" Wide x 13" Depth
- 3) Double - Doors With Sealable 3-Point Latch Handle
- 4) Hinged Utility Sealable Meter Window
- 5) 3/4" Plywood Backboard



**GALLUP  
JOINT  
UTILITIES**

DATE: 08/19/08  
DRAWN BY: E.J.W.  
APRVD BY:  
APRVD BY:  
SCALE: N.T.S.

TITLE:

**CURRENT TRANSFORMER  
PANEL SPECIFICATIONS  
TWO CUSTOMERS OR MORE**

REVISIONS

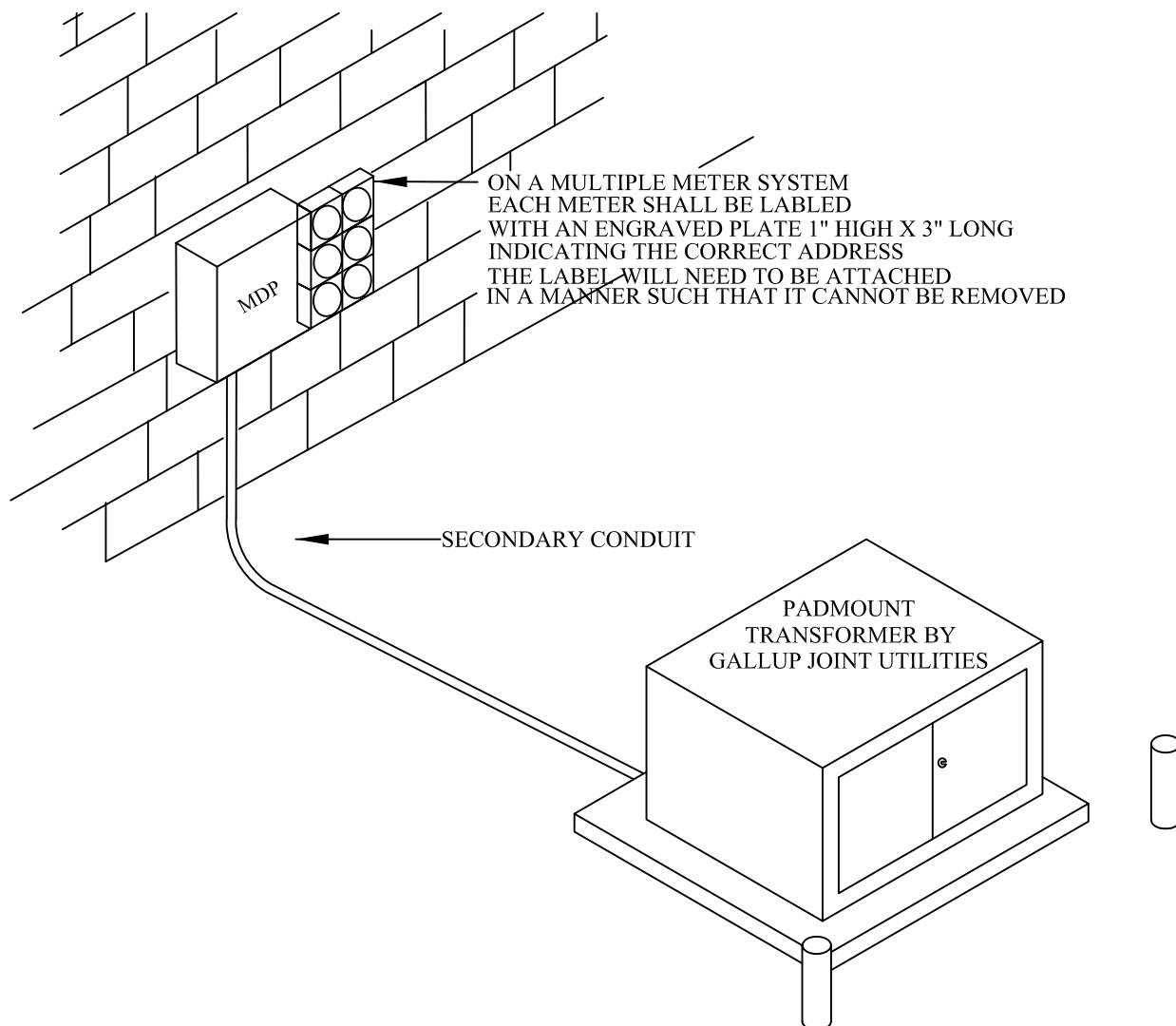
BY:

DATE:

STANDARD No.

PAGE:

5 OF 7



**GALLUP  
JOINT  
UTILITIES**

DATE: 08/15/08  
DRAWN BY: E.J.W.  
APRV'D BY:  
APRV'D BY:  
SCALE: N.T.S.

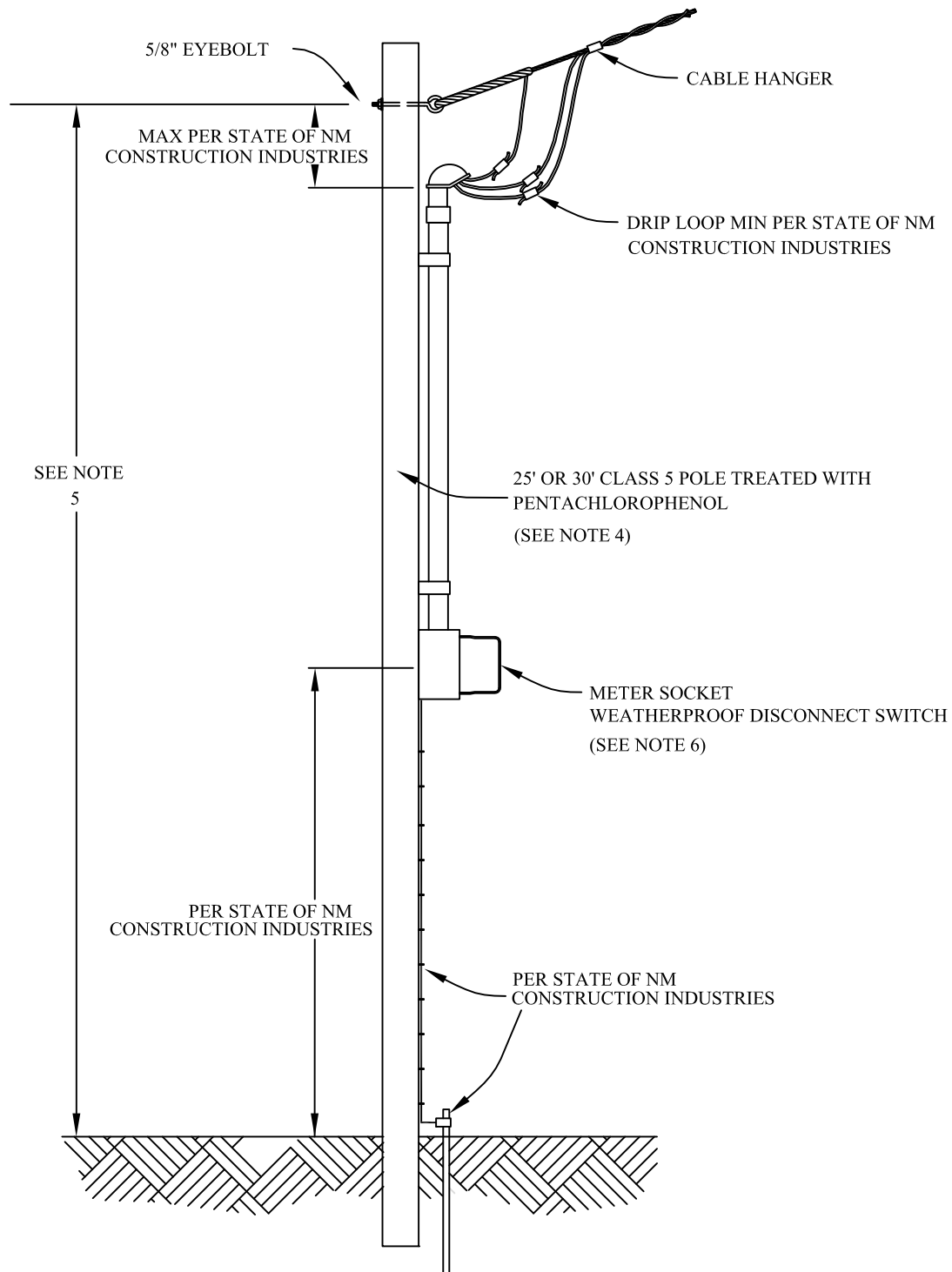
TITLE:  
**MULTIPLE METERS – 200 AMPS  
OR LESS  
COMMERCIAL AND RESIDENTIAL**

REVISIONS	
BY:	DATE:

STANDARD No.

PAGE:

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#### NOTES

1. INSTALL BRACING, GUY OR SET IN CONCRETE AS REQUIRED DEPENDING ON SOIL CONDITIONS, LENGTH OF SERVICE, ETC.
2. IDENTIFY EACH METER SOCKET WITH A LOT OR SPACE NUMBER.
3. ALL ITEMS OTHER THAN CABLE HANGER FURNISHED AND INSTALLED BY CONTRACTOR.
4. COORDINATE WITH GALLUP JOINT UTILITIES ENGINEERS FOR ALLOWABLE POLE SIZE.
5. RESIDENTIAL DRIVEWAY OR SIDE WALK.....15' CLEARANCE  
ROADWAY OR ALLEY.....22' CLEARANCE
6. OTHER OPTIONS: METER/MAIN, METERMAIN BRANCH, OR COMBINATION SERVICE ENTRANCE.



**GALLUP  
JOINT  
UTILITIES**

DATE: 05/19/95  
DRAWN BY: A.G.W.  
APRVD BY:  
SCALE: N.T.S.

TITLE:  
**METER POLE FOR  
PERMANENT and TEMPORARY  
INSTALLATIONS**

REVISIONS	
BY:	DATE:
E.J.W.	07/01/11

STANDARD No.

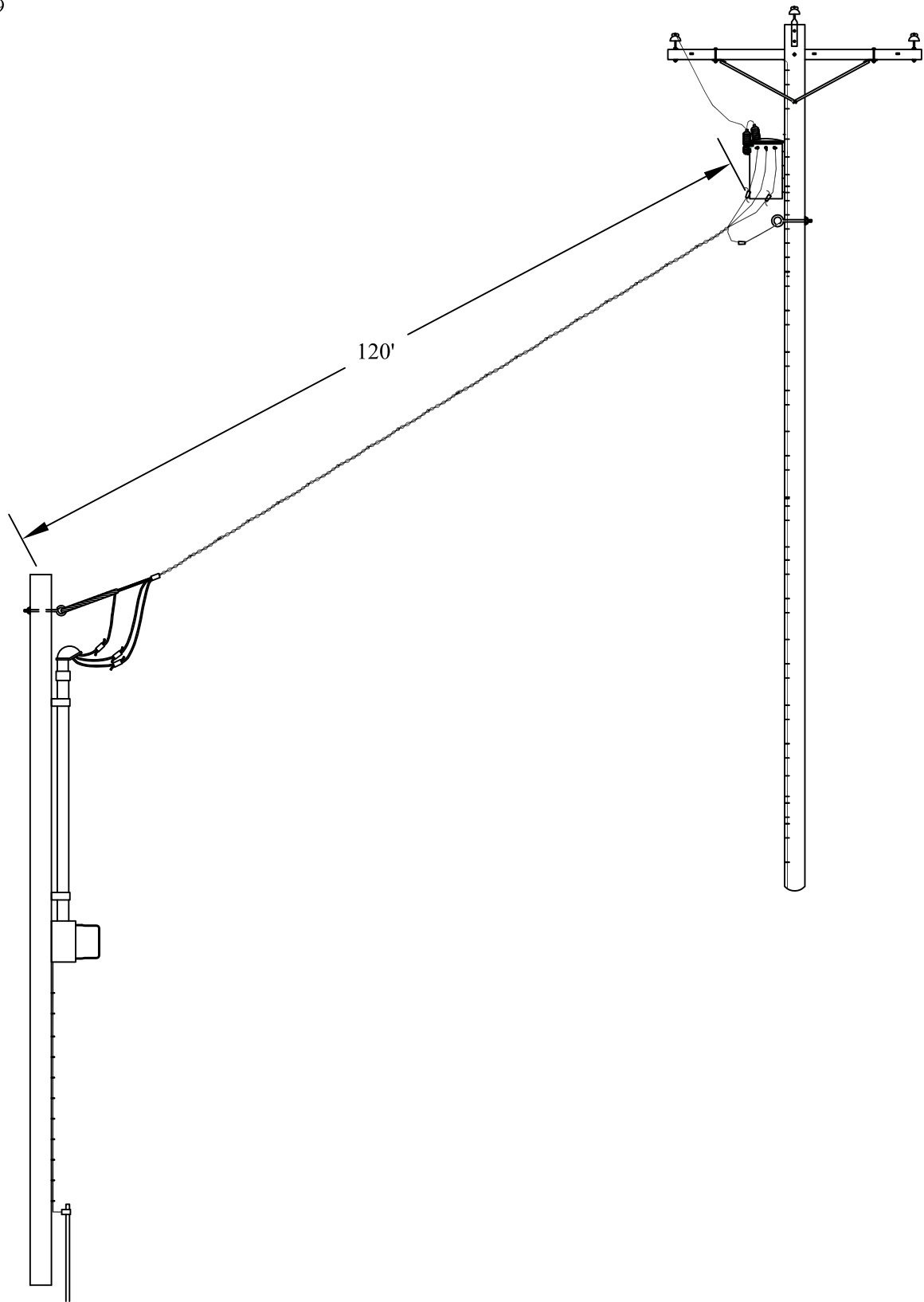
PAGE:

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## TEMPORARY SERVICES

Overhead Temporary Service  
Existing Transformer

1) 0' - 120' = \$76.89



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/21/2008  
DRAWN BY: E.J.W.  
APR'D BY:  
APR'D BY:  
SCALE: N.T.S.

TITLE:

**TEMPORARY SERVICE  
EXISTING TRANSFORMER**

REVISIONS

BY:

DATE:

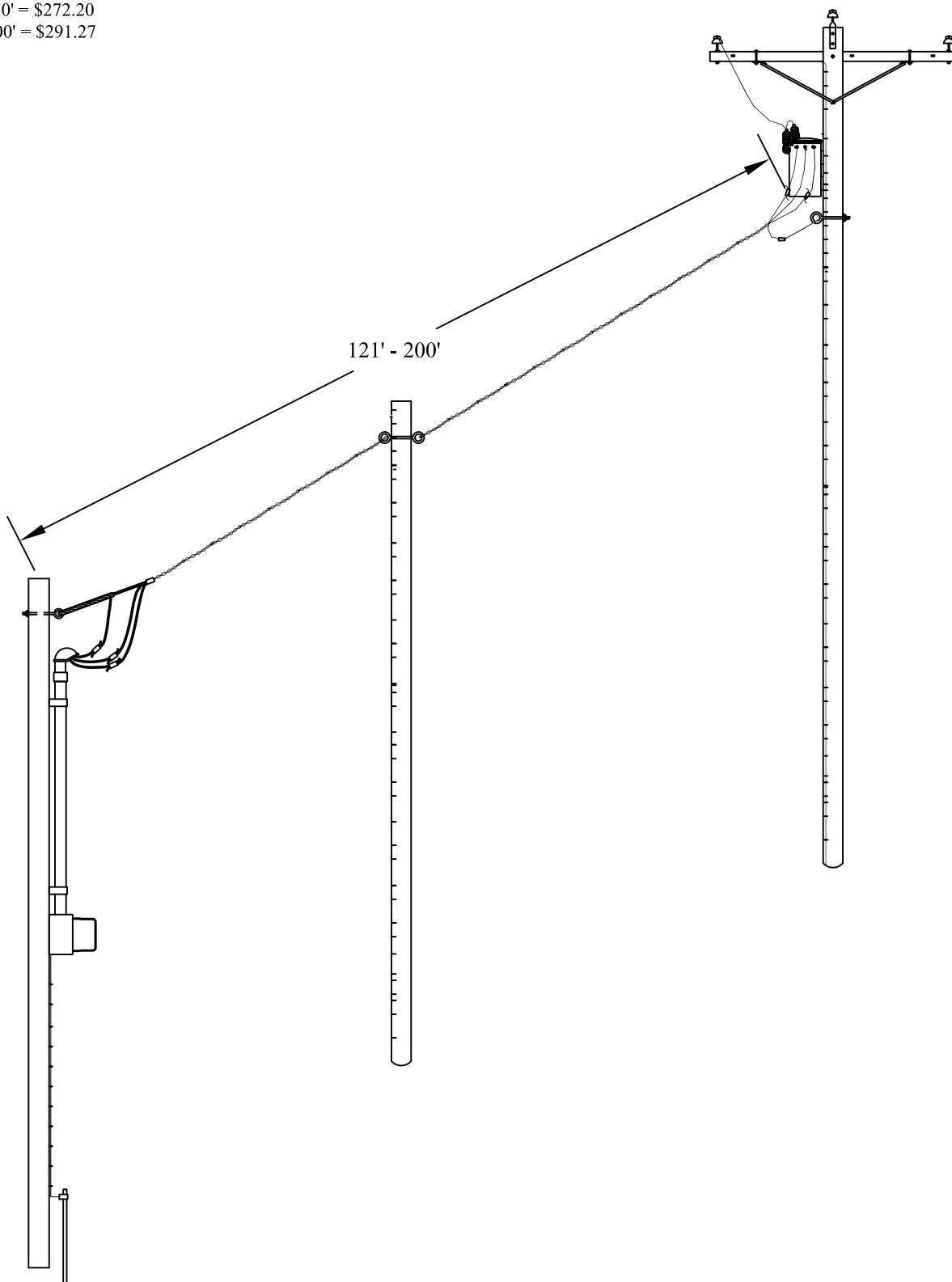
STANDARD No.

PAGE:

1 OF 8

Overhead Temporary Service  
Special Conditions - Lift Pole Needed

- 1) 121' - 150' = \$272.20
- 2) 150' - 200' = \$291.27



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/21/2008  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 APRV'D BY:  
 SCALE: N.T.S.

TITLE:  
**TEMPORARY SERVICE  
 SPECIAL CONDITIONS  
 LIFT POLE NEEDED**

REVISIONS	
BY:	DATE:

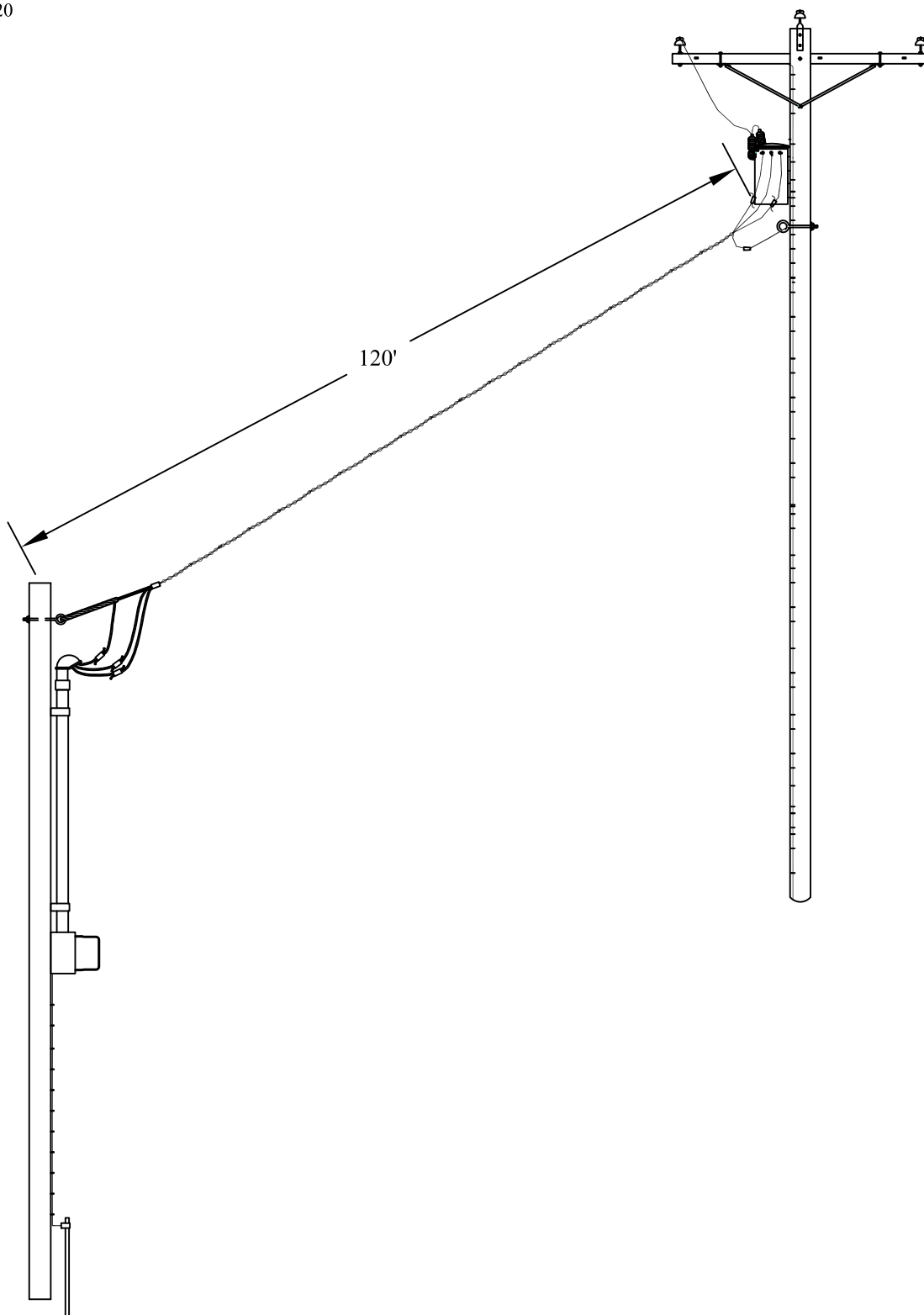
STANDARD No.

PAGE:

2 OF 8

Overhead Temporary Service  
Special Conditions - Transformer Needed

1) 0' - 120' = \$272.20



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/21/2008  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 APRV'D BY:  
 SCALE: N.T.S.

TITLE:

**TEMPORARY SERVICE  
 SPECIAL CONDITIONS  
 TRANSFORMER NEEDED**

REVISIONS

BY:

DATE:

STANDARD No.

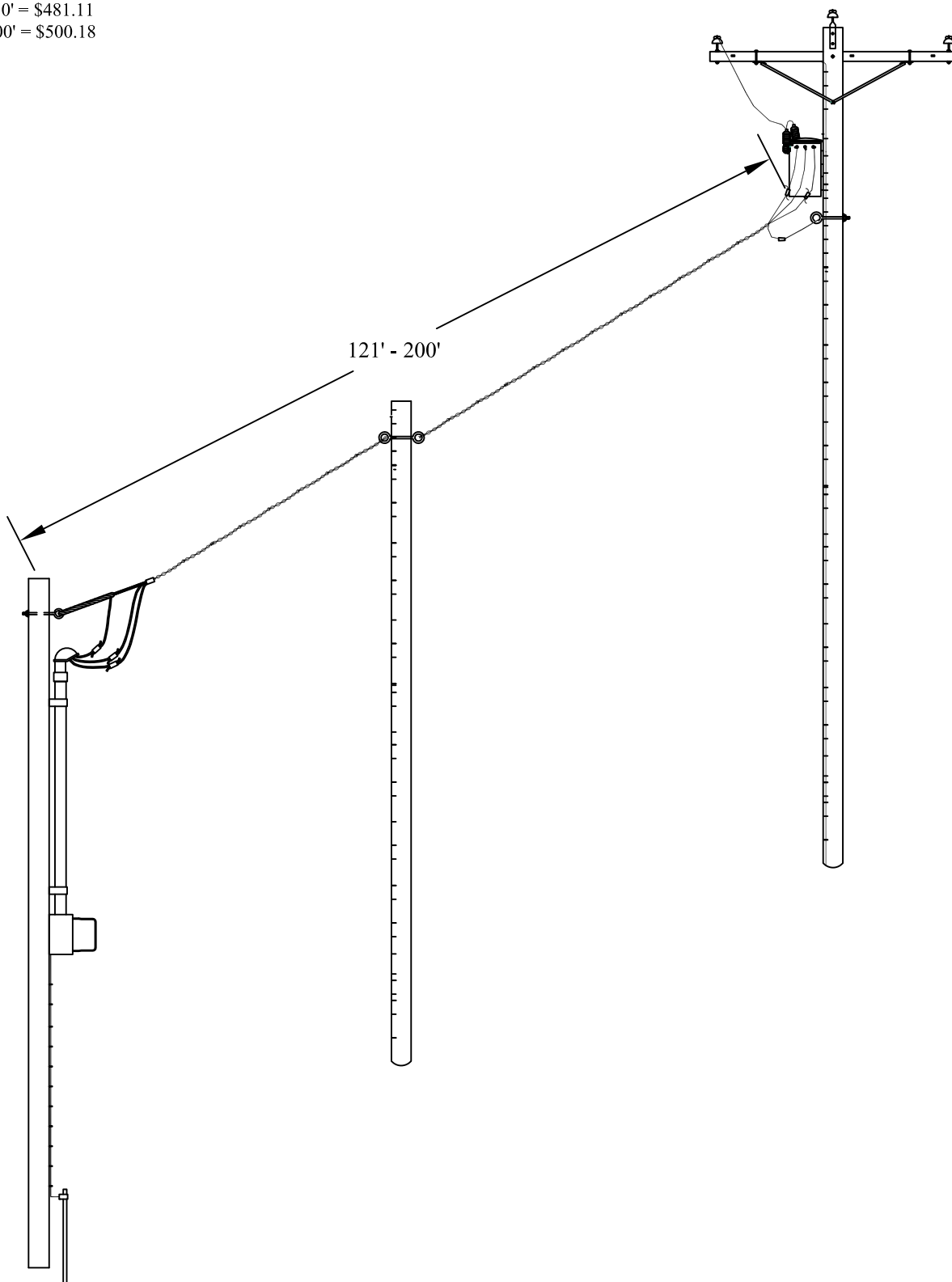
PAGE:

3 OF 8



Overhead Temporary Service  
Special Conditions - Transformer & Lift Pole Needed

- 1) 121' - 150' = \$481.11
- 2) 150' - 200' = \$500.18



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/21/2008  
 DRAWN BY: E.J.W.  
 APRV'D BY:  
 APRV'D BY:  
 SCALE: N.T.S.

TITLE:  
**TEMPORARY SERVICE  
 SPECIAL CONDITIONS  
 TRANSFORMER & LIFT POLE NEEDED**

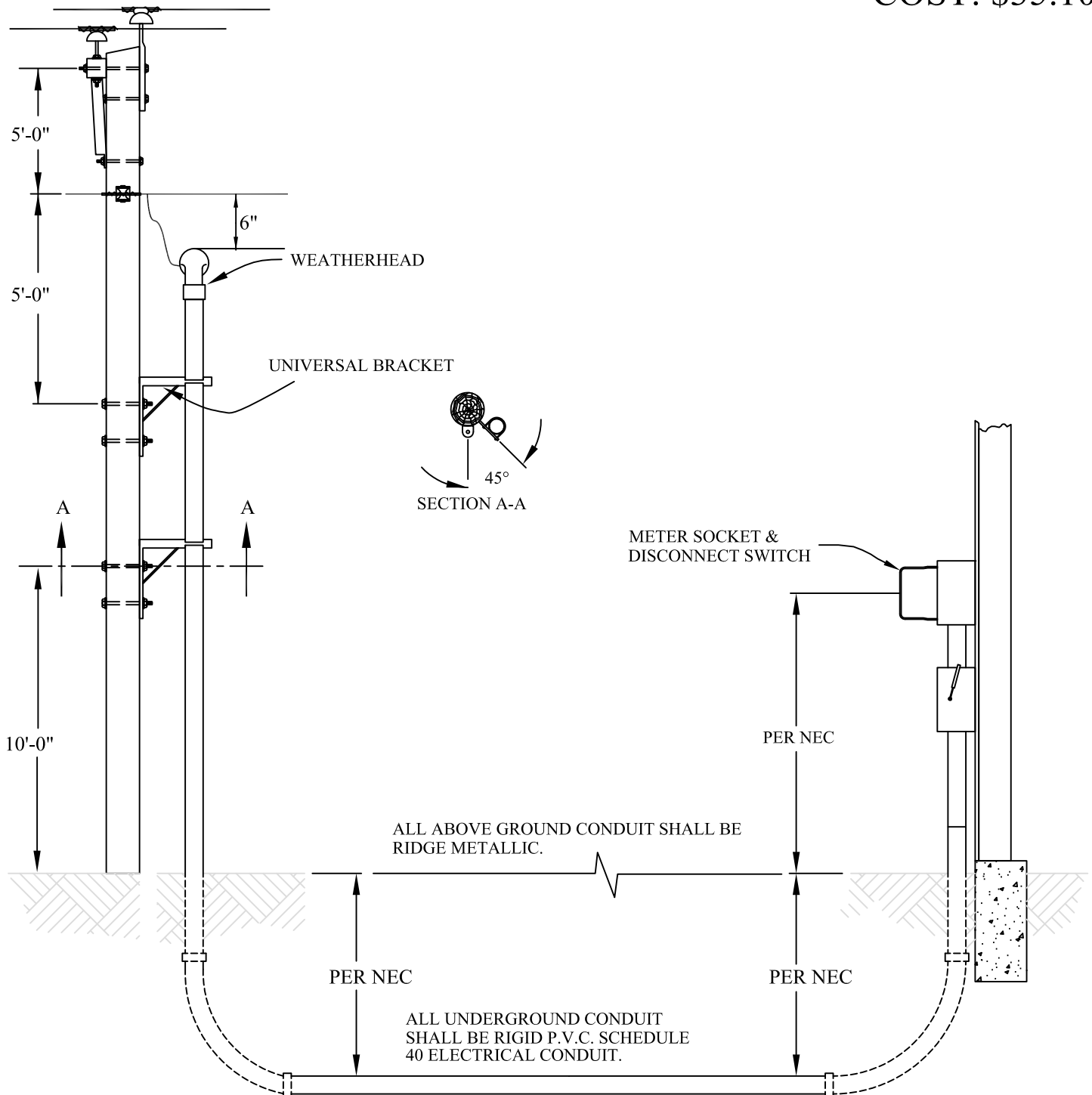
REVISIONS	
BY:	DATE:

STANDARD No.

PAGE:

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COST: \$35.10



# NOTES

1. CONDUIT SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE POLE FROM THE CROSSARM OR DOWN GUY.
2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.
3. CONDUCTOR LEADS SHALL PROTRUDE FROM WEATHERHEAD A SUFFICIENT LENGTH TO CONNECT TO TRANSFORMER SECONDARY BUSHINGS.



**GALLUP  
JOINT  
UTILITIES**

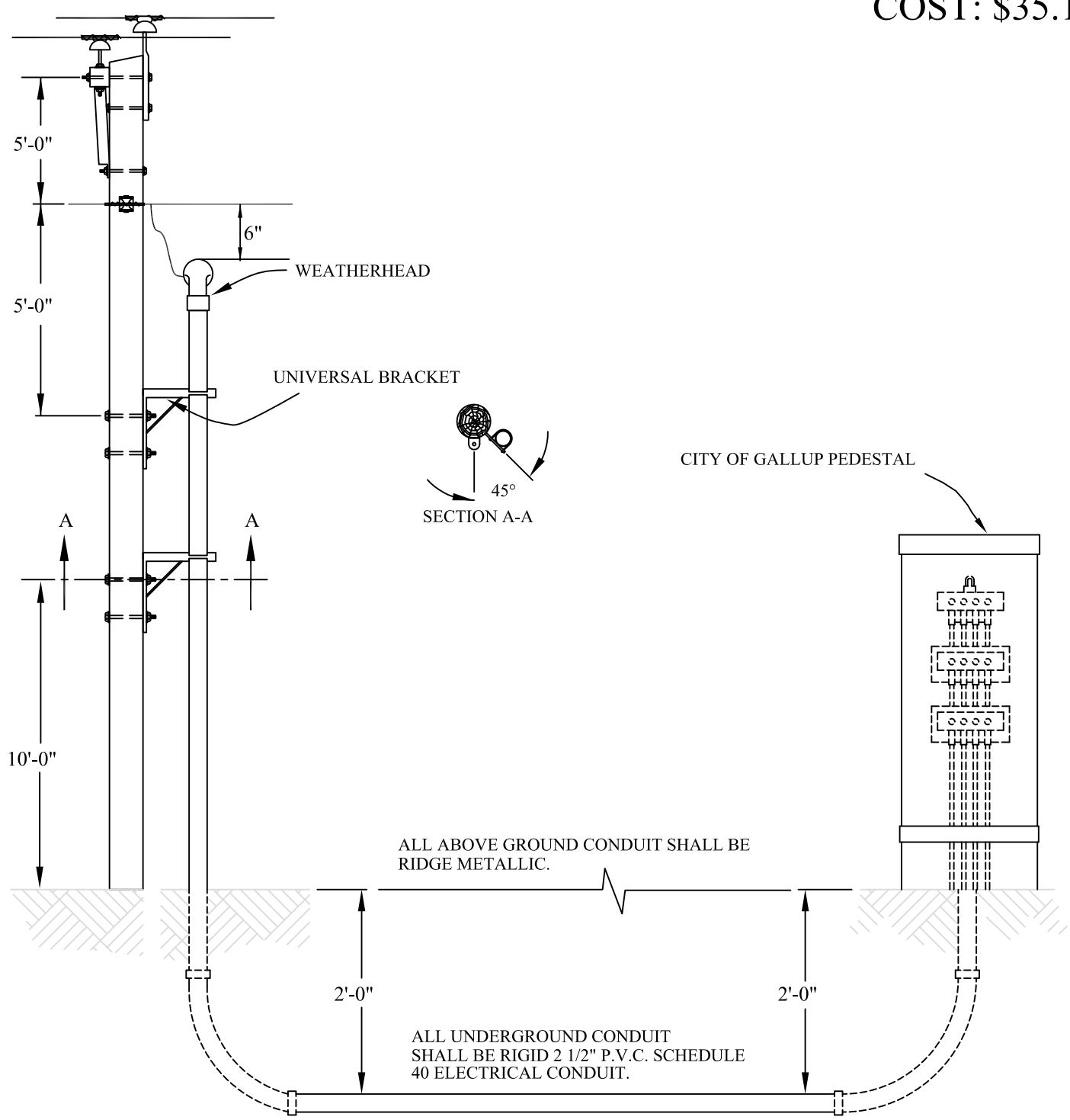
DATE: 11/22/08  
DRAWN BY: E.J.W.  
APRVD BY:  
APRVD BY:  
SCALE: N.T.S.

TITLE:  
**TEMPORARY SERVICE  
SECONDARY RISER  
UNDERGROUND SERVICE**

REVISIONS	
BY:	DATE:

STANDARD No.  
  
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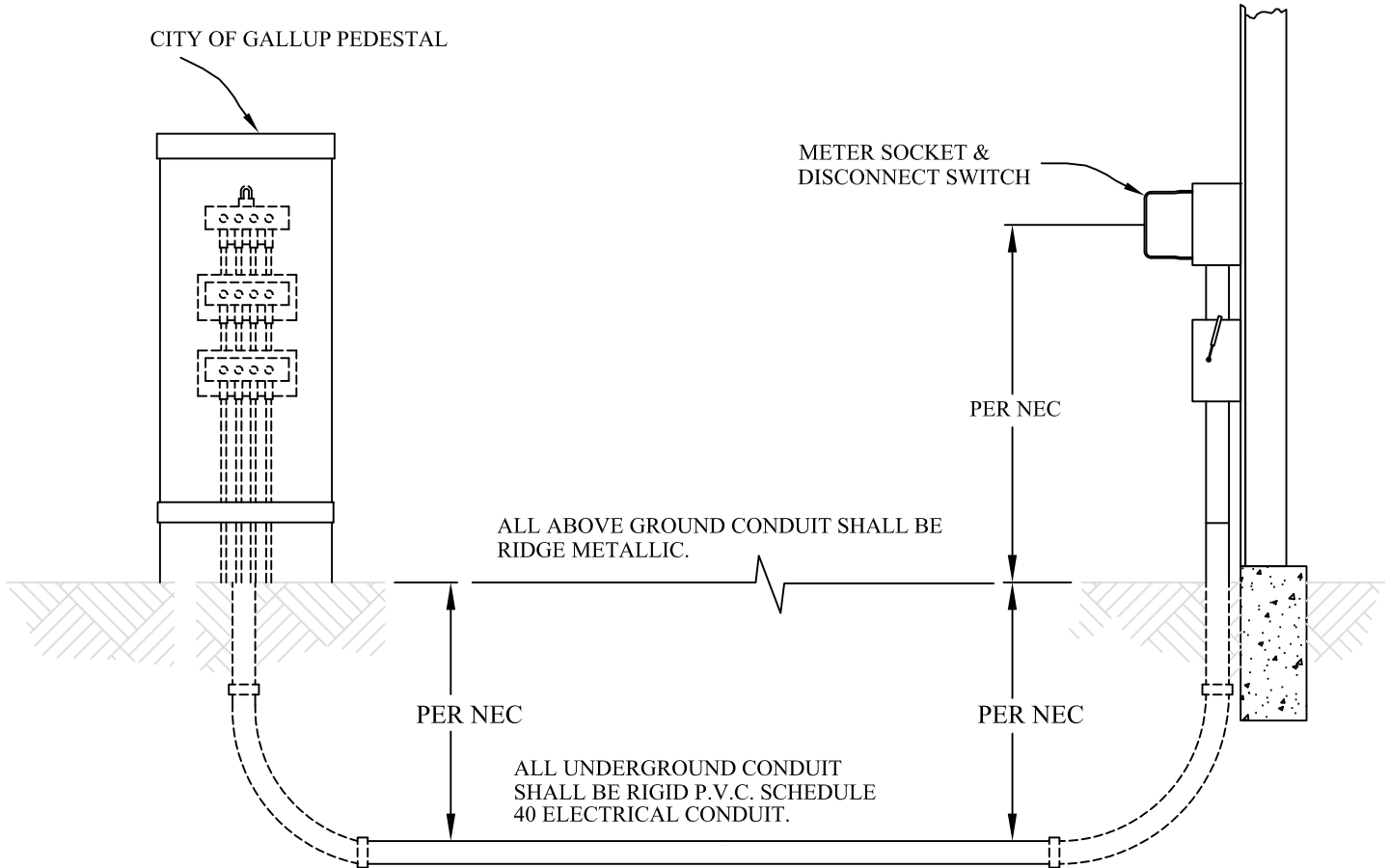
COST: \$35.10



NOTES

- 1. CONDUIT SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE POLE FROM THE CROSSARM OR DOWN GUY.
- 2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.
- 3. CONDUCTOR LEADS SHALL PROTRUDE FROM WEATHERHEAD A SUFFICIENT LENGTH TO CONNECT TO TRANSFORMER SECONDARY BUSHINGS.
- 4. CONTRACTOR IS RESPOSIBLE FOR ALL TRENCHING, CONDUIT, AND CONDUCTOR FOR THE SECONDARY INSTALLATION.

COST: \$35.10



NOTES

1. CONTRACTOR RESPONSIBLE FOR ALL TRENCHING, CONDUIT, AND CONDUCTOR FOR THE SECONDARY INSTALLATION
2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.



**GALLUP  
JOINT  
UTILITIES**

DATE: 11/22/08  
DRAWN BY: E.J.W.  
APR'D BY:  
APR'D BY:  
SCALE: N.T.S.

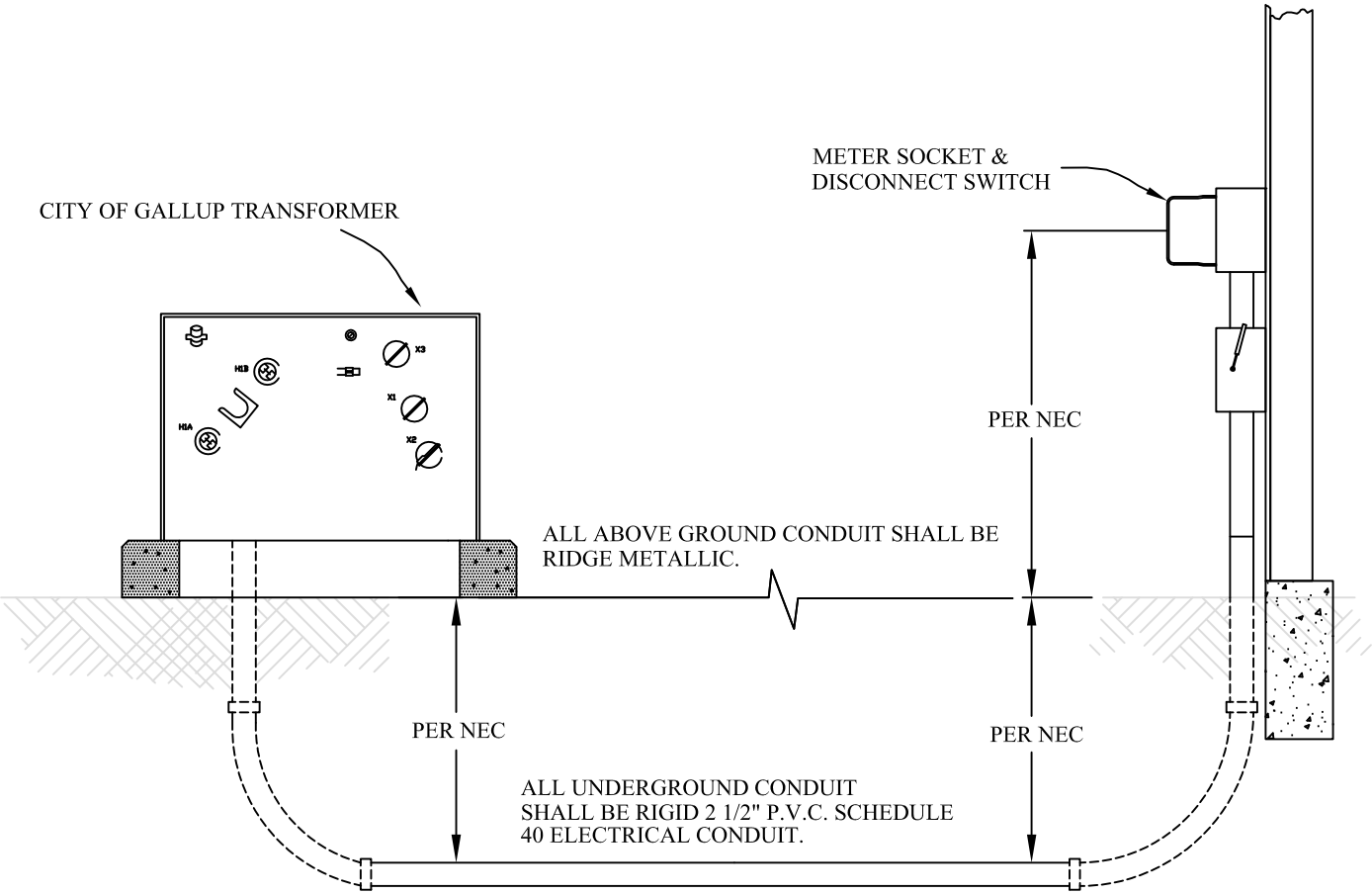
TITLE:  
**TEMPORARY SERVICE  
SECONDARY PEDESTAL  
UNDERGROUND SERVICE**

REVISIONS	
BY:	DATE:

STANDARD No.

PAGE:

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NOTES

- 1. CONTRACTOR IS RESPOSIBLE FOR ALL TRENCHING, CONDUIT, AND CONDUCTOR FOR THE SECONDARY INSTALLATION.
- 2. CONDUIT ABOVE GRADE MUST BE CONNECTED TO GROUND.



GALLUP  
JOINT  
UTILITIES

DATE: 11/09/10  
DRAWN BY: E.J.W.  
APRV'D BY:  
APRV'D BY:  
SCALE: N.T.S.

TITLE:  
TEMPORARY SERVICE  
TRANSFORMER TO METER  
UNDERGROUND SERVICE

REVISIONS	
BY:	DATE:

STANDARD No.  
  
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